CURTIS'S

BOTANICAL MAGAZINE,

COMPRISING THE

Plants of the Royal Gardens of Kew

AND

OF OTHER BOTANICAL ESTABLISHMENTS IN GREAT BRITAIN;
WITH SUITABLE DESCRIPTIONS;

BY

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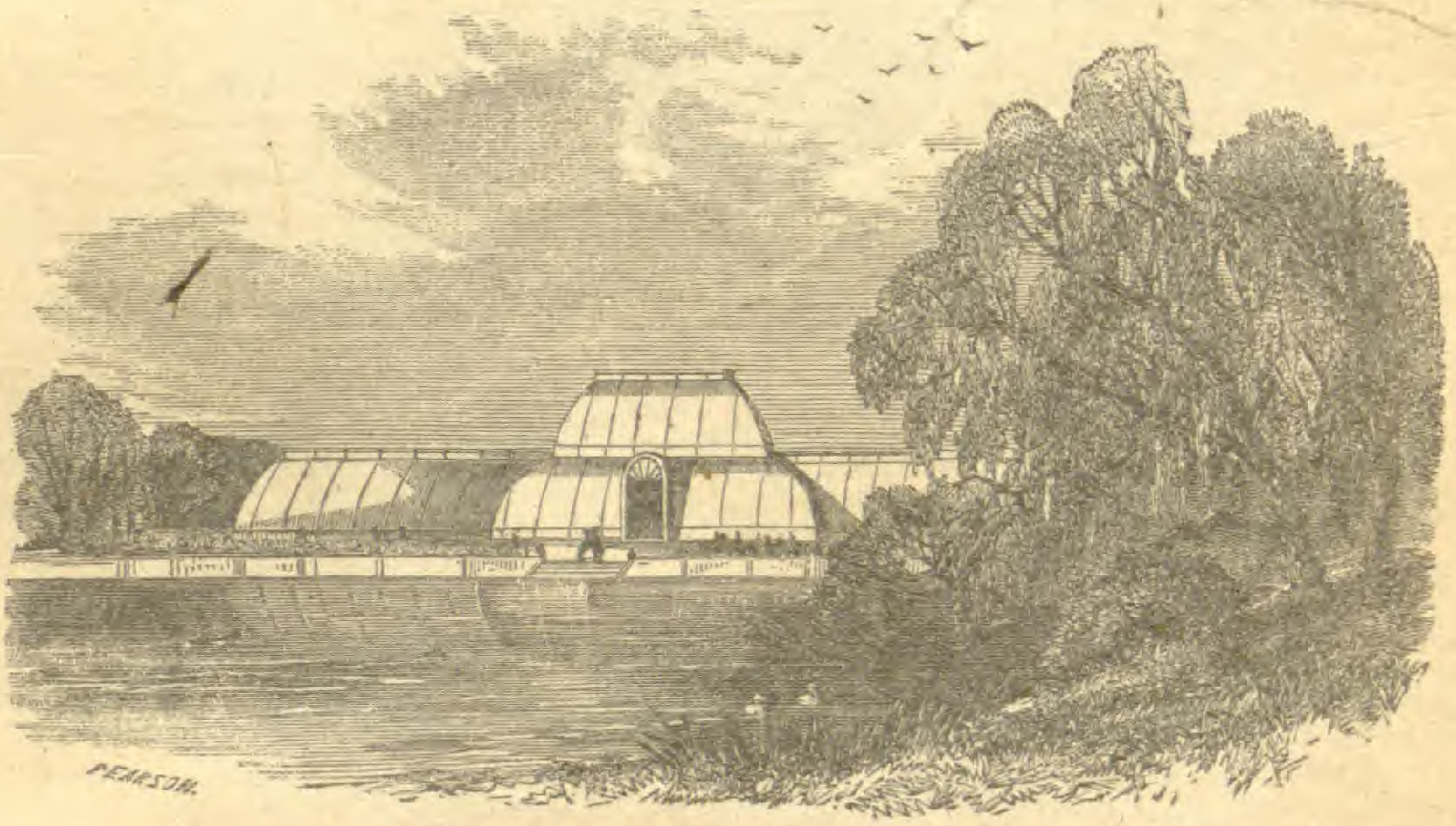
VOL. XIX.

OF THE THIRD SERIES;

(*Or Vol. LXXXIX. of the Whole Work.*)



"A wreath that cannot fade of flowers that blow
With most success when all besides decay."

Mo. Bot. Garden,
1897.

LONDON:
LOVELL REEVE & CO., HENRIETTA STREET, COVENT GARDEN.
1863.

SHOUT
SHARE
IT

NULLA DIES SINE LINEA.

JOHN EDWARD TAYLOR, PRINTER,
LITTLE QUEEN STREET, LINCOLN'S INN FIELDS.

TO

DR. ROBERT WIGHT, M.D.,

THE DISTINGUISHED ILLUSTRATOR OF INDIAN BOTANY

AND THE

LIBERAL DONOR OF HIS ENTIRE PRIVATE COLLECTION OF INDIAN PLANTS

TO THE HERBARIUM AT KEW,

The present Volume is Dedicated,

AS A MARK OF GREAT RESPECT AND AFFECTION,

BY

THE AUTHOR.

ROYAL GARDENS, KEW,
Dec. 1, 1863.

5354

W Fitch, del et lith.

Vincent Brooks, Imp.

TAB. 5354.

SONERILA GRANDIFLORA.

Large-flowered Sonerila.

Nat. Ord. MELASTOMACEÆ.—TRIANDRIA MONOGYNIA.

Gen. Char. Flores 3-meri. *Calycis* oblongi, subcylindrici, vel triquetri, rarius turbinati *dentes* simplices, acuti, sæpius breviores, persistentes aut sero decidui. *Petala* ovata vel oblongo-ovata, acuminata, nervo medio postice sæpissime piloso. *Stamina* 3, cum petalis alternantia, rarissime 6 et tunc alternatim inæqualia; *antheris* nunc subulatis aut linearibus 1-porosis, nunc ovatis ovato-oblongisve, obtusis, biporosis, interdumque admodum brevibus et quasi truncatis; *connectivo* infra loculos nullo, postice autem supra filamenti insertionem basilarem aut subdorsalem nonnunquam tuberculato. *Ovarium* omnino aut vix non omnino adhærens, triloculare. *Stylus* filiformis, *stigmate* punctiformi aut capitellato. *Capsula* calycis tubo persistente vestita, ut plurimum triquetra, apice umbilicata, 3-valvis. *Semina* magis minusve regulariter ovoidea aut pyramidata. Herbæ *interdum* suffrutescentes, *in India orientali insulisque vicinis indigenæ, inter* Melastomaceas *ob flores trimeros memorabiles, habitu autem heterogeno, caulescentes et subacaules, glabræ et hirsutæ;* foliis *haud infrequenter maxime inæqualibus et heteromorphis;* floribus *ut plurimum in racemos scorpoideos dispositis, purpureis aut violaceis, rarius albis. Naud.*

SONERILA *grandiflora;* erecta, glaberrima, caule fruticuloso nodoso, foliis petiolatis ellipticis utrinque acutis serratis basi 3–5-nerviis crassis subtus purpurascentibus, petiolo crasso, floribus in cymas curvas terminales dispositis magnis crasse pedunculatis, calyce elongato turbinato, lobis late ovatis, petalis rubro-purpureis acuminatis, staminibus stylo æquilongis, stigmate simplici.

SONERILA grandiflora. *Wall. Cat. n.* 4099. *Wight et Arn. Prodr. v.* 1. *p.* 322. *Wight, Ic. t.* 995.

This very beautiful, and apparently extremely rare plant, was flowered by Messrs. Hugh Low and Son, of Clapton, in October last. It is a native of the Nilgherrie mountains, where it has, according to Dr. Wight, been found by him in one spot only, namely, the Long Valley between the Avalanche and Sispanah, where it occurs in great plenty by the banks of a rivulet. It is much the finest species of the genus that has hitherto flowered in this country.

JANUARY 1ST, 1863.

DESCR. An erect, glabrous, branching, suffruticose *plant*, twelve to eighteen inches high, with rather brittle, woody, terete *branches*, and fleshy *branchlets* and *cymes*. *Leaves* opposite, on thick shortish *petioles*, ovate or elliptic-ovate, acute, continuous below with the petiole, serrate, very thick, and almost fleshy in texture, with three to five parallel veins, green suffused with red above, purple beneath. *Flowers* in a terminal, falcate, stout, unilateral *cyme*, nearly one inch in diameter, of a deep vinous purple-red. *Calyx tube* turbinate, as long as the peduncles; its lobes short and broad. *Petals* elliptic, acute, spreading. *Stamens* with subulate *filaments*, as long as the elongated apiculate *anthers*. *Disk* an elongated fimbriated *annulus*. *Style* deflexed, with a simple *stigma*.

Fig. 1. Flower with the petals removed. 2. Ovary, disk, and style. 4. Stamens. 5. Transverse section of ovary :—*all magnified.*

W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5355.

TRICYRTIS HIRTA.

Thunberg's Tricyrtis.

Nat. Ord. UVULARIEÆ.—HEXANDRIA TRIGYNIA.

Gen. Char. Calyx 6-sepalus, corollaceus, regularis, deciduus; *sepala* distincta oblonga, apice acuminata, campanulato-conniventia; tria *exteriora* 7-nervia, basi gibboso-saccata; tria *interiora* 5-nervia. *Stamina* 6, basi sepalorum inserta, æqualia. *Antheræ* biloculares, ellipticæ, complanatæ, apice retusæ, basi bilobæ, dorso intus spectante versus medium affixæ, externe secundum longitudinem dehiscentes. *Ovarium* liberum, sessile, elongatum, triquetrum, triloculare, apice in *stylum* brevem attenuatum; *ovula* in loculis creberrima, biseriata, subhorizontalia, anatropa. *Stigmata* 3, apice biloba, recurvata, *capsula* triquetro-prismatica, trilocularis, apice trivalvis. *Semina* parva, in loculis biseriatim imbricata, ovata, plana, atra; *testa* laxiuscula, rugosa. *Embryo* minutus, in albuminis carnosi cavitate submucosa hilo opposita locatus.—Herbæ *subtiliter pilosæ.* Caulis *erectus, foliatus, apice ramosus et pauciflorus.* Folia *sparsa, ovato-oblonga, cordata, sessilia, amplexantia, acuminata, nervosa, membranacea.* Flores *in ramis solitarii vel gemini, longe pedunculati, cernui, virescente albi, intus maculis crebris purpureis notati, inodori, pedicellis inarticulatis. Kth.*

TRICYRTIS *hirta;* tota hirta, pilis mollibus patentibus, foliis ovato-oblongis acuminatis sessilibus amplexicaulibus, floribus amplis in racemis brevibus paucifloris axillaribus congestis, antheris dorso filamenti adnatis, ovario hirto, stylo elongato.

UVULARIA hirta. *Thunb. Fl. Jap. p.* 36. *Willd. Sp. Pl. v.* 2. *p.* 237. *Rœm. et Schult. Syst. Veg. v.* 7. *p.* 370.

The rediscovery of the Japanese *Uvularia hirta* of Thunberg, as represented in the beautiful subject of the present plate, enables us to correct the synonymy of the Himalayan *Tricyrtis pilosa* of Wallich, figured in Tab. 4955 of this Magazine, in so far as that plant was erroneously (though doubtfully) referred to this by its discoverer. Dissimilar as the original *T. hirta* is from the *T. pilosa,* it is not easy to seize on any further differential characters than are to be found in its more hairy habit, larger, longer style, pilose ovary, and more numerous and far more beautiful flowers; and the doubtful reference by Wallich, nearly forty years ago, of his Himalayan plant to that of Thunberg (of which he had seen no specimens, and of which neither flowers nor fruit were described), is a remarkable instance of the sagacity of that very distinguished botanist.

The credit of the rediscovery of this plant is due to Mr. Fortune, who sent it from Japan to Mr. Standish, in whose nursery at Bagshot it flowered last November. It grows four to five feet high, and the copious blossoms which appear on the axils of all the upper leaves, and which are of a pearly white dotted with clear purple, render it as singular-looking as it is beautiful.

Descr. A slender, hairy, branching, herbaceous *plant*, three to five feet high, with terete, leafy *stems* and *branches*. *Leaves* alternate, two to three inches long, oblong or oblong-lanceolate, sessile and amplexicaul at the base, acuminate and recurved at the apex, deep green, quite entire, with diverging veins. *Flowers* in short axillary, two- to five-flowered erect *racemes*. *Bracts* ovate-lanceolate, acuminate. *Peduncles* slender, terete, pilose. *Flowers* two inches broad, of a pearly white, with small purple blotches, and here and there suffused with pink. *Perianth* leaflets erect, recurved above the middle, with a large, obscurely-lobed, tumid gibbosity at the base. *Filaments* recurved at the apex, spotted with purple, adnate to the back of the extrorse *anther*. *Ovary* narrow linear, trigonous, pilose, with a long *style*, and three diverging bifid *stigmas*.

Fig. 1 and 2. Perianth-segments and stamens. 3. Pistil. 4. Transverse section of ditto:—*all magnified*.

W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5356.

PITCAIRNIA PUNGENS.

Spinose Pitcairnia.

Nat. Ord. BROMELIACEÆ.—HEXANDRIA MONOGYNIA.

Gen. Char. Perigonii semisuperi sexpartiti *laciniæ exteriores* calycinæ, basi inter se connatæ, lanceolatæ, acuminatæ, carinatæ, erectæ, *interiores* petaloideæ, longiores, inferne in tubum approximatæ, apice galeatim incumbentes v. æqualiter patentes, basi intus squamosæ vel rarius nudæ. *Stamina* 6, *annulo perigyno* inserta; *filamenta* libera, subulata, *antheræ* lineares, basi sagittatæ. *Ovarium* semi-inferum, triloculare. *Ovula* in loculorum angulo centrali plurima, adscendentia, anatropa. *Stylus* filiformis; *stigmata* 3, linearia, spiraliter contorta. *Capsula* semisupera, ovato-pyramidata, trilocularis, apice septicido-trivalvis, *valvis* introrsum demum fissis. *Semina* plurima, adscendentia, teretiuscula, testa fusca scrobiculata, *chalaza* lata discolore umbilicum setiformem, chalazæ apicali in acumen longe productæ, jungente. *Embryo* minimus, rectus, in basi albuminis dense farinosi, extremitate radiculari umbilicum attingente.—Herbæ *Americanæ tropicæ,* foliis *linearibus v. ligulatis, sæpe spinoso-dentatis,* caule *erecto, simplici,* floribus *racemosis, bracteatis. Endl.*

PITCAIRNIA *pungens;* subacaulis, foliis longe lineari-subulatis sensim attenuato-acuminatis furfuraceis integerrimis, inferioribus ad spinas elongatas pungentibus bifariam spinulosis reductis; scapo molliter furfuraceo bracteato, bracteis lineari-lanceolatis erectis, floribus spicatis, spica simplex oblonga multiflora, floribus pallide rubris, petalis lineari-spathulatis obtusis basi intus squama auctis.

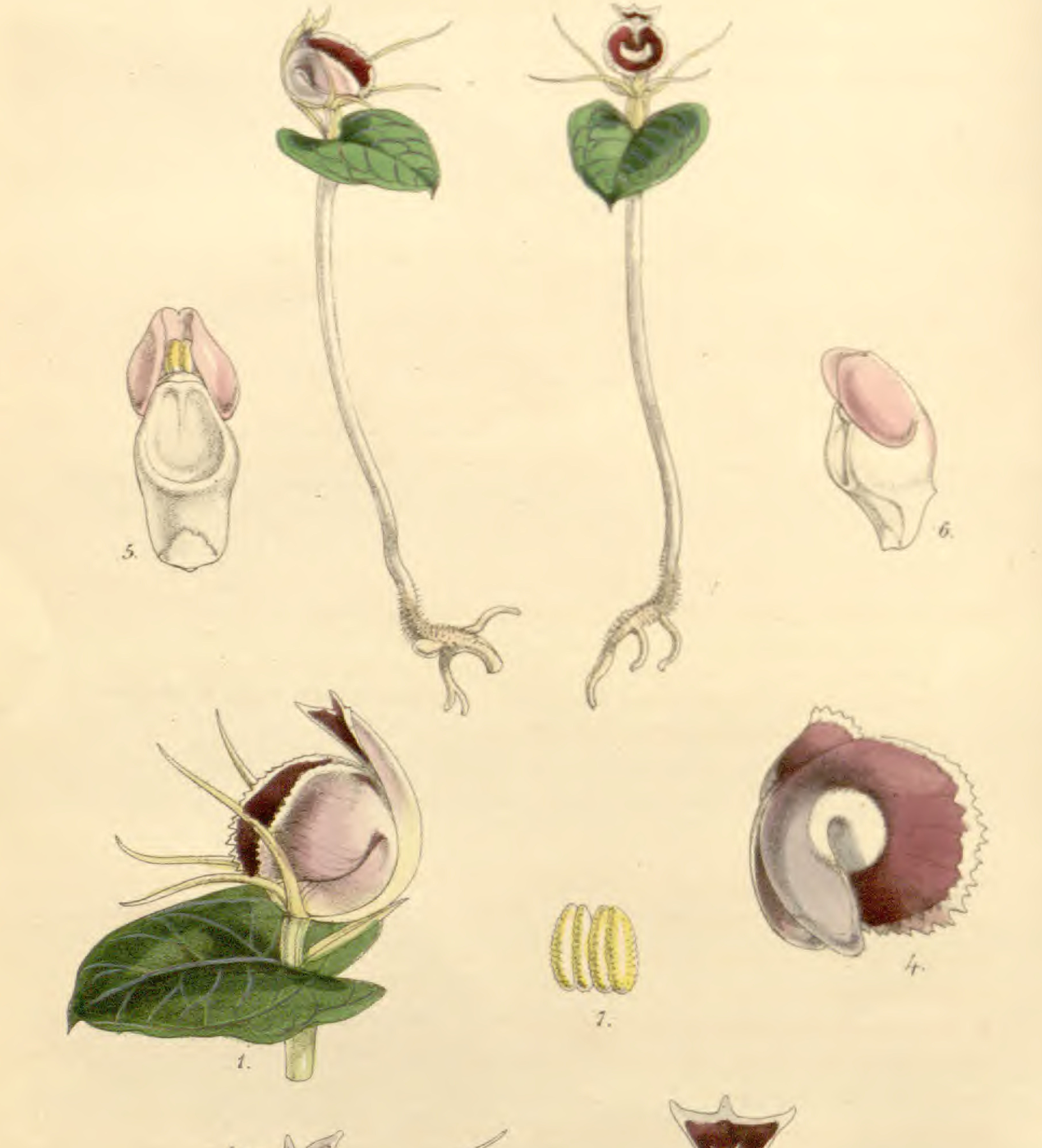
PITCAIRNIA pungens. *H. B. et K. Nov. Gen. et Sp. v.* 1. *p.* 294. *Schultes, Syst. Veg. v.* 7. *p.* 1219.

A very handsome greenhouse plant, raised by Isaac Anderson Henry, Esq., of Edinburgh, from seeds sent by Professor Jameson, of Quito. We have numerous specimens in our herbarium from various parts of the Andes of New Granada, where it appears to be common. It is very ornamental.

DESCR. *Stem* one to two feet high, simple, terete, leafy, pruinose, especially above; clothed below with sheathes terminating in long, sharp, slender spines, which are imperfect leaves, armed with two rows of ascending spinules.. *Leaves* very numerous, sheathing, elongate-linear-subulate, a foot long, and four to six lines broad or more, furfuraceous or subtomentose below, pale green above. *Flowers* in a rather lax, linear, oblong, simple spike, sessile or shortly peduncled, linear, with narrow green bracts. Outer *perianth*-segments tripartite, nearly smooth, with oblong-lanceolate, acuminate, keeled segments; inner three times longer than the outer, linear, obtuse, furnished with an oblong scale at the base, of a pale but bright orange-red colour. *Stamens* included; *anthers* linear. *Ovary* conical, three-lobed; *style* long, slender; *stigma*, with three twisted lobes.

Fig. 1. Flower. 2. Inner segment of perianth. 3. Pistil:—*all magnified.*

5357.



W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5357.

CORYSANTHES LIMBATA.

White-edged Corysanthes.

Nat. Ord. ORCHIDEÆ.—GYNANDRIA MONANDRIA.

Gen. Char. Perianthium ringens. *Sepalum* supremum, magnum, galeatum; *lateralia* basi connata, brevia v. elongata, nunc filiformia. *Labellum* amplum, cucullatum v. tubulosum. *Columna* brevis, solida. *Anthera* 1-locularis, semibivalvis, persistens. *Pollinia* 4, oblonga.—Herbæ *perpusillæ, glabræ, teneres, radice tuberosa.* Folium *solitarium, ovatum, basi cordatum, membranaceum, integrum v. lobatum.* Flos *solitarius, magnus, subsessile, luride rufus v. purpureus.*

CORYSANTHES *limbata;* folio ovato-cordato acuminato venis albis reticulato, bractea ovato-lanceolata acuminata, sepalo postico late lineari apice subdilatato truncato 3-dentato, lateralibus petalisque anguste lineari-subulatis labellum longe superantibus, labello basi convoluto lamina expansa orbiculata eroso-dentata purpurea albo-limbata.

This perfect gem and most interesting novelty was introduced from Java, and flowered by Mr. William Bull, in his Nursery, King's Road, Chelsea, last October, and is decidedly the most exquisite little plant of its size that ever came under our notice: it is, indeed, impossible in a lithograph to do justice to the transparence of its stem, the vivid green and white of its delicate undulated and variegated leaf, or the sparkling beauty of its amethystine flowers. As a botanical curiosity, it derives a double interest from being the first authenticated instance of the genus flowering in this country, and from the fact of the late Mr. Salisbury having figured a species in his 'Paradisus' (tab. 83), under the name of *Corybas*, professedly from a cultivated specimen, but which, as Mr. Brown in his 'Prodromus' (p. 328) insinuates, was described and figured either from memory or from Bauer's drawings, to which Mr. Salisbury had access, but to which he made no allusion.

DESCR. A small, glabrous, delicate, translucent, one-leaved and one-flowered *herb. Leaf* ovate-cordate, acuminate, bright green, with reticulated white veins. *Flower* nearly half an inch long. *Dorsal sepal* elongate, curved into a semicircle, broadly linear, rather dilated, truncated, purple, and three-lobed at the apex. *Lateral sepals* and *petals* green and thread-like. *Lip* with a convolute base and expanded orbicular limb, of a deep vinous-purple colour, with white eye, and white erose margin.—*J. H. D.*

Fig. 1. Leaf and flower. 2. Back of flower and bract. 3. Front of ditto. 4. Labellum. 5. Side, and 6, front view of column. 7. Pollen :—*all magnified.*

5358.

W. Fitch, del. et lith.

Vincent Brooks, Imp.

Tab. 5358.

SEDUM Sieboldii.

Siebold's Stonecrop.

Nat. Ord. Crassulaceæ.—Decandria Pentagynia.

Gen. Char. Calyx pentaphyllus, foliolis ovatis, sæpius turgidis. *Corollæ* petala 5, perigyna, plerumque patentia. *Stamina* 10, perigyna. *Squamulæ hypogynæ,* integræ vel brevissime emarginatæ. *Ovaria* 5, libera, unilocularia, ovulis ad suturam ventralem plurimis. *Capsulæ* folliculares 5, liberæ, intus longitudinaliter dehiscentes, polyspermæ.—Herbæ *vel* suffrutices *in temperatis totius orbis, imprimis tamen Europa et Asia media crescentes;* foliis *alternis, rarius oppositis, carnosis, teretibus vel planis, integerrimis aut rarius dentatis;* floribus *cymosis, albis purpureis vel cæruleis aut flavis, interdum tetra-heptapetalis, octo-tetradecandris;* squamulis hypogynis *integris, tunc a* Sempervivis *distinguendis. Endl.*

Sedum *Sieboldii;* suffruticosum, caulibus gracilibus subascendentibus foliosis, foliis glaucis rubro-tinctis ternato-verticillatis orbiculari-cuneatis carnosis concavis grosse sinuato-dentatis, floribus composite cymosis purpureis, filamentis alternis brevioribus.

Sedum Sieboldii. *Sweet, Cat.*

A very interesting species of *Stonecrop,* and very unlike any one known to me, which appears to have been introduced by Messrs. Henderson, Pine-apple Place, from Japan, in 1838, into our gardens, under the name of *Sedum Sieboldii,* of Sweet; and such a name is in garden catalogues, but I have failed to find any character or description. Its affinity is perhaps with *Sedum ternatum* of North America, and the habit is a good deal that of *S. Anacampseros.* There is in Thunberg's 'Flora Japonica,' p. 350, under "Plantæ obscuræ," a "*Sedum,* n. 2, foliis subrotundis crenatis. Caulis filiformis, flexuosus, erectus, uti planta tota glaber. Folia opposita, sessilia, suborbiculata, crenata, unguicularia;" which, but for the "folia opposita," I might have been disposed to consider the same as this. The leaves are very beautiful, quite glaucous, with a deep tinge of purple-red, and so concave that they resemble the half of a bivalve shell.

January 1st, 1863.

It flowers readily in a cool greenhouse, and would probably bear the open air.

DESCR. Perennial. *Stems* six to eight inches long, slender, weak, in our plants ascending or subdecumbent, simple, slender, leafy at every joint. *Leaves* ternately verticillate, broad, rotundato-cuneate, concave above, convex beneath, crenato-dentate at the very obtuse apex, very glaucous, and strongly tinged with reddish-purple, especially the inferior leaves; upper leaves gradually smaller. *Cymes* compound, terminal, rather bright rose-purple; *calyx* small, of five fleshy sepals. *Petals* thrice longer than sepals, ovate, spreading. *Stamens* longer than the petals. *Filaments* filiform, alternately shorter. *Pistils* five; *germens* ovate, tapering into the moderately long *style*. *Stigma* punctiform.

Fig. 1. Flower,—*magnified.*

5359

W. Fitch, del. et lith.

Q.5

Vincent Brooks, Imp.

TAB. 5359.

DAMMARA ORIENTALIS.

Dammara or Amboyna Pitch-Pine.

Nat. Ord. CONIFERÆ.—DIŒCIA POLYANDRIA.

Gen. Char. Flores dioici. *Amenta* staminigera axillaria v. extra-axillaria, cylindrica, basi peralata. *Stamina* plurima, axi inserta, imbricata; *filamenta* brevissima, horizontalia, in *connectivum* crassum cuneatum v. orbiculatum producta; *antheræ* loculi nunc quinque v. sex uniseriati, nunc sex ad quindecim biseriati, e connectivi basi penduli, cylindrici, filamenti paralleli et æquilongi, postice longitudinaliter dehiscentes. *Seminif. amenta* terminalia, solitaria v. gemina. *Squamæ* plurimæ, ebracteatæ, axi insertæ, dense imbricatæ, apicem versus sensim crassiores. *Gemmula* sub quavis squama unica, eidem prope apicem inserta, inversa, libere pendula, atropa, apice deorsum spectante aperta. *Strobilus* ovato-globosus, e squamis coriaceo-lignosis, dense imbricatis, demum ab axi solutis. *Semina* sub quavis squama solitaria, inversa, libere pendula, ovata, compressa, hilo transversim lineari, integumento membranaceo utrinque in alam producto, ala altera angusta marginiformi, altera cultriformi squama latiore. *Embryo* in axi albuminis carnosi antitropus, ejusdem longitudine, cotyledonibus duabus semicylindricis obtusis; *radicula* cylindrica, infera.—Arbores *excelsæ, in insulis Moluccanis et in Nova Zelandia crescentes, resinifluæ.* Folia *alterna et subopposita, oblongo-lanceolata, integerrima, crassa, enervia, striata, facie inferiore tota stomatum seriebus dense sibi oppositis. Endl.*

DAMMARA *orientalis;* foliis petiolatis staminigeris extra-axillaribus, antherarum loculis 2–15 biseriatis crista cuneiformi orbiculari strobili subglobosi squamis adpressis, apice rotundatis, seminum ala horizontali. *Endl.*

DAMMARA orientalis. *Lamb. Pin. ed.* 2. *p.* 61. *t.* 38. *p.* 97. *t.* 54. *Endlich. Syn. Conif. p.* 189. *Miquel, Fl. Ind. Bat. v.* 2. *p.* 1070.

PINUS Dammara. *Willd. Sp. Pl. v.* 4. *p.* 503. *Lamb. Pin. ed.* 1. *p.* 61. *t.* 38. *Ait. Hort. Kew. ed.* 2. *v.* 5. *p.* 321.

ABIES Dammara. *Poir. Dict. v.* 5. *p.* 35.

AGATHIS Dammara. *Richard, Conif. p.* 83. *t.* 19.

AGATHIS loranthifolia. *Salisb. in Linn. Trans. v.* 8. *p.* 312. *t.* 15. *Blume, En. Pl.*

DAMMARA alba. *Rumph. Herb. Amboin. v.* 2. *p.* 174. *t.* 57.

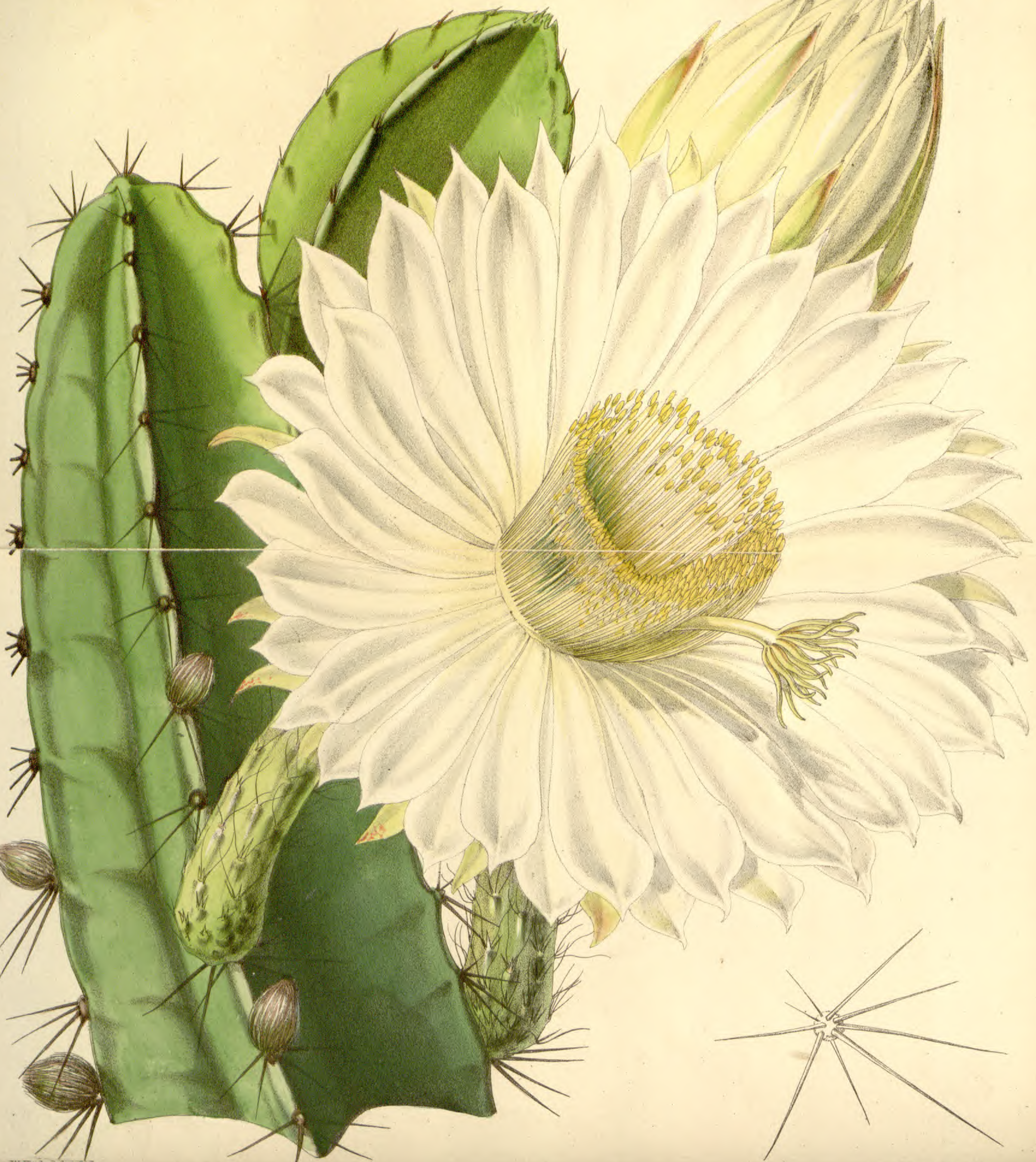
ARBOR Javanensis foliis latioribus conjugatis, Dammara alba dicta. *Sherard in Raii Hist. v.* 3. *p.* 130.

Perhaps the rarest of all the Coniferous plants in cultivation in Europe. Loudon, in his 'Arboretum Britannicum,' records only one instance to his knowledge of its being in England, in the Royal Gardens of Kew; and that is the one from which our figure is taken, and which was introduced by Sir Joseph Banks in 1804. It has now attained the height of thirty feet, little indeed in proportion to its age; but then it is to be recollected that our tender *Coniferæ* have been for the last fifty years maintained in houses so low and so unsuited to them, and in tubs so small (lest their growth should be too much encouraged), that no justice has been done them. Notwithstanding, now, in the autumn of 1862, on the removal of this tree to its new abode in the grand centre of the New Conservatory (or Winter Garden), it was found to have upon it many cones, similar to that here represented. Though apparently attaining the full size of the native cones, yet for want of male flowers they are necessarily abortive, and on a slight movement of the tree or of a coniferous branch, the scales fall down in a shower, leaving the large, obovate, fleshy receptacle, as shown at our figure.

The species is a native of the Moluccas; but, according to Rumphius, it is only found on the summits of the lofty mountains, where it attains a very large size, and yields a vast quantity of very hard and transparent resin, which forms an article of commerce in the East, and of whose uses, etc., an account will be found in the Supplement to Miquel's 'Flora of the Dutch Indies,' p. 86, like that of the *Dammara australis*, or Cowdie Pine, of New Zealand. Other species of *Dammara* have recently been detected in the South Pacific islands: among them are the *D. macrophylla*, Lindl., figured in Hook. Kew Garden Misc., v. 4, p. 115, t. 4, with much larger leaves, and cones twice the size of those of *D. orientalis*; from La Peyrouse's Island; another in New Caledonia; a third in Australia; and a fourth from the Feejees.

Fig. 1. Receptacle of the cone after the scales have fallen away. 2. Scale from the cone, one seed removed, the other remaining. 3. Seed apart from the scale. 4. Male catkin and young leaf,—*natural size.* 5. Anthers.

5360.



W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5360.

CEREUS PTEROGONUS, *Lem.*

Wing-angled Cereus.

Nat. Ord. CACTACEÆ.—ICOSANDRIA MONOGYNIA.

Gen. Char. Perigonii tubus ultra germen longe productus, pulvilligerus; *phylla* numerosissima; *sepaloidea infima* squamæformia, *superiora* elongata, spiraliter imbricata, in axillis sæpissime seti- vel aculeifera, *petaloidea* longiora plus minusve recurvato-patentia, corollam infundibuliformem æmulantia. *Stamina* numerosissima, basi tubo adnata, superne libera, limbo breviora. *Stylus* filiformis, *stamina* vix superans. *Stigma* multiradiatum, radiis linearibus. *Bacca* squamata aut tuberculata, pulvilligera. *Cotyledones* liberæ, foliaceæ.—Caulis *carnosus, ætate indurescens, brevis vel elongatus costatus vel angulosus, pulvilligerus, crassus v. tenuis, erectus vel reptans, continuus vel articulatus, simplex vel ramosus.* Flores *laterales, sæpissime nocturni, ephemeri, aut aliquot dies aperti. Salm-Dyck.*

CEREUS (§ Radicantes) *pterogonus;* caule e basi ramoso ramisque articulatis læte viridibus divaricatis rigidissime humi adpressis, radicantibus 4–5-angulatis, costis compressis acutatis inter pulvillos obrepandis, lateribus superne excavatis inferne planiusculis, pulvillis immersis valde confertis parvulis vix tomentosis, aculeis 3–4 aciculatis rigidis fulvidis summo sæpe longiore, cum setaceis quibusdam deciduis. *Salm. Dyck.*

CEREUS pterogonus. *Salm-Dyck, Cact. Hort. Dyck. pp.* 52, 221.

We cannot but be glad to see the encouragement given to the cultivation of succulent plants in some of the late numbers of the 'Gardeners' Chronicle.' As a general collection of such plants, and for the interest felt in them by the public, we may confidently refer to the "Succulent House," in Kew Gardens, which I believe stands unrivalled in Europe. There are among them the most strange and varied forms, especially of the *Cactus* group, and it is well known that the genus *Cereus,* one of which we have now under consideration, affords the most magnificent blossoms, frequently of the most gorgeous colours, of any in nature.

The flowers of *Cereus pterogonus,* if not equal in size or in beauty to those of *Cereus Macdonaldiæ* (see our Tab. 4707) have the advantage of expanding in the daytime, and are not ephemeral; those of the last-named species open only in the night, and close before sunrise the next morning. This species, yet rare, we believe, in Europe, was imported from Carthagena, and has now blossomed for the first time. It has flowered with us in August, 1862.

Descr. A straggling-growing *plant*, needing the support of stakes, or to be trained against a wall. *Branches* articulated; joints three inches or more in diameter, and six to seven inches long, usually four-angled, rarely five, or in other words formed of four to five deep fleshy wings, flattened at the sides, an inch and a half deep, slightly sinuato-lobate at the margin, the sinus of the lobes bearing each a tuft (*pulvillus*) of hair-like bristles, and a spreading and somewhat deflexed tuft of three to four unequal *aculei*, five to six lines long, slender and straight, accompanied by two to three long setaceous bristles. *Flowers* sessile, arising from just above the tuft of bristles at the margin, five to six inches long in the tube, and as much more across the fully blown pure white *flower*. *Tube* green, sepaloid; *scales* ovate, acuminate, the lowest terminated by setiform bristles. *Stamens* pale yellow, very numerous, erect or nearly so, united at the base, and forming a crown at the mouth of the tubes. *Style* columnar, projecting a little beyond the stamens. *Stigma* of many, about twenty, spreading, subulate, fleshy *rays*.

Fig. 1. Cluster of the spines,—*magnified*.

5361.

W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5361.

PHÆDRANASSA OBTUSA.

Blunt Phædranassa.

Nat. Ord. AMARYLLIDACEÆ.—HEXANDRIA MONOGYNIA.

Gen. Char. Perigonium superum, corollaceum, tubuloso-infundibuliforme, sexpartitum; *tubo* brevi crasso, *fauce* nuda, laciniis spathulatis inferne canaliculato-convolutis, subæqualibus. *Stamina* 6, summo tubo pariter inserta, e basi geniculato-adscendente recta, exserta, tria superiora breviora. *Filamenta* filiformia, inferne gradatim latiora et complanata, in tubum decurrentia. *Antheræ* lineari-oblongæ, dorso infra medium affixæ, versatiles. *Ovarium* inferum, trigonum, ellipticum, triloculare; *ovula* in loculis crebra, angulo interno affixa, biseriata, horizontaliter superposita, superne alata, anatropa. *Columna stylina* filiformis, erecta, exserta. *Stigma* subcapitato-incrassatum, integrum. *Capsula* trigona, trilocularis, polysperma.—Herbæ *Americanæ, bulbiferæ, scapigeræ;* bulbo *tunicato.* Folia *coætanea petiolata, striato-nervosa.* Scapus *teres, tenuiter fistulosus (potius totus spongiosus).* Spatha *polymorpha, marcescens.* Flores *pedicellati, penduli. Kunth.*

PHÆDRANASSA *obtusa;* folio synanthio sesquipedali horizontali oblongo in petiolum longe angustato (4-pollices lato), scapo stricto tereti glauco subspirali, umbella 6-flora, pedunculis tubo brevioribus, tubo cylindraceo basi abrupte obtuso sexcostato (carneo) apice (viridi) patulo, staminibus stylo multo brevioribus. *Kth.*

PHÆDRANASSA obtusa. *Herb. in Bot. Reg.* 1845; *Misc. p.* 17. *Benth. Plant. Hartw. p.* 260. *Kth. En. Plant. v.* 5. *p.* 501.

PHYCELIA obtusa. *Lindl. in Bot. Reg.* 1844; *Misc. p.* 91.

The genus *Phædranassa* * was founded by the late Hon. and Rev. William Herbert, upon an Amaryllidaceous plant of Ecuador and Peru, the *Hæmanthus dubius* of Humb. and Kth., *Collania dubia*, Schult., *Crinum Quitense*, and his own *Phycelia chloracra*, Herb. Amaryll. p. 155. It is well represented by Dr. Lindley, in Bot. Reg. v. 31. t. 17. To this he added his *Phycelia obtusa*, which we are glad now to have the opportunity of figuring; a native of the same region, introduced to this country by James Anderson Hay Henry, Esq., of Hay Lodge,

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* From φαιδρος, *gay*, and ανασσα, *queen*.

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Trinity Lodge, Edinburgh, (from whom our living plant has been received,) a gentleman ardently devoted to botany and horticulture. The seeds were received by him in 1859, from the venerable South American botanist Dr. William Jameson, of Quito. They were gathered in his favourite mountain Pichincha (the vegetation of which he has for so many years successfully explored), at an elevation of between ten thousand and eleven thousand feet above the level of the sea. It is, as Dr. Lindley observes, so very like the *P. chloracra*, " that it might be mistaken for it, but it has stamens considerably shorter than the style, and the tube instead of being green at the bottom where it gradually tapers into the ovary, is wholly flesh-coloured, and ends above the ovary in six abrupt prominent ribs." Indeed, Dr. Lindley is of opinion that this rather than the *chloracra*, is the *Hæmanthus dubius* of Humboldt and Kunth.

We had both of the species flowering at the same winter season in a temperate house, but though neither of them possesses the qualities suggested by the generic name of the learned author, they are exceedingly pretty, continue a long time in blossom, and tend to render a house gay at a period of the year when there is little that is so. The leaves, as the scape and flowers advance to maturity, go on increasing in size till they become thrice the size of what are here figured.

Fig. 1. Base of the tube of the flower, stamens, and pistils. 2. Transverse section of the ovary :—*magnified.*

W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5362.

CYPRIPEDIUM HOOKERÆ.

Lady Hooker's Cypripedium.

Nat. Ord. ORCHIDACEÆ.—GYNANDRIA DIANDRIA.

Gen. Char. (*Vide supra*, TAB. 4901.)

CYPRIPEDIUM *Hookeræ;* foliis carnoso-coriaceis oblongo-ligulatis acutis tessellatis, pedunculo unifloro hirto, sepalo superiore triangulo ovato, sepalo inferiore oblongo obtuse acuto, tepalis ligulato-obovatis acutis limbo ciliatulis, labelli sacco cylindraceo galeato, margine libero medio integerrimo retuso latere utroque minute angulato, staminodio peltato magno oblongo, postice integerrimo, antice excisura semiovata bidentato, columna postice sub staminodio callo trilobo signata, lobo medio semiovato, lobis lateralibus teretiusculis divaricatis. *Reichenb. fil.*

CYPRIPEDIUM Hookeræ.

This is another of those beautiful species of *Cypripedium* of which Wallich's *C. venustum* and *insigne* were the first (and long the only types known) in cultivation, but of which many striking new forms have of late been brought to this country from the islands of the East. For the present species we are indebted to Messrs. Low and Sons, of Clapton, who imported it from Borneo, and the specimen figured flowered in the garden of W. Marshall, Esq., of Enfield. Specimens were also sent at the same time to Dr. Reichenbach, fil., who has communicated to us the specific name he has given to it, with the further note: "Flowers of *Cypripedium hirsutissimum* and leaves of *Phalænopsis Schillerianum*, or nearly so." It partakes also of the characters of *C. barbatum* (Tab. 4234) and *C. purpureum* (Tab. 4901), from both of which it differs in the green and yellow dorsal sepal not striped with purple, and from the former also in wanting the bearded tubercles on the margins of the sepals; the latter character and the purple lip distinguish it from *C. venustum* (Tab. 2129), as do the mottled leaves and very different dorsal sepal from *C. Fairieanum* (Tab. 5024) and *C. insigne* (Tab. 3412); whilst the straight, shorter, not decurved petals, and many other

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W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5363.

PLUMBAGO ROSEA, var. *coccinea.*

Rose Leadwort, scarlet var.

Nat. Ord. PLUMBAGINEÆ.—PENTANDRIA MONOGYNIA.

Gen. Char. Calyx insertione rectus, tubulosus, post anthesin sæpe conicus, inter 5 costas latas herbaceas tota longitudine vel superne stipitato-glandulosas ad basin usque hyalino-membranaceas, apice quinquedentatus. *Corolla* gamopetala, hypocraterimorpha, *tubo* calycem superante, *limbo* rotato quinquepartito. *Stamina* 5, hypogyna; *filamenta* basi subdilatata carnosula concaviuscula in *discum* lobatum sub ovario conniventia. *Antheræ* lineares, basi bifidæ. *Ovarium* ovatum vel oblongum, *stylo* filiformi superatum. *Stigmata* 5, filiformia, latere interiori glandulis pluriseriatus dense obsita. *Utriculus* membranaceus, styli basi persistente mucronatus, ima basi teneriori irregulariter et circumscisse ruptus, dein a basi ad medium aut a parte media jam fenestrata basin versus secus angulos valvatim fissus, *valvis* apice cohærentibus. *Semen* ovatum, oblongum.—Herbæ *perennes, Europææ, vel* frutices *tropici, rarius Capenses,* ramis *scandentibus;* floribus *subsessilibus, in spicas plus minus elongatas dispositis, singulo tribracteato,* bracteis *planis.* Calycis *æstivatione valvaris.* Corolla *nunquam xanthica, æstiv. contorta, post anthesin emarcida,* tubo *sub limbo horizontaliter tortili dein paulo supra basin utriculi elongatione rupto.* Integumentum *seminis in hoc genere eximie pellucido-punctulatum, nec ut in toto ordine læviusculum. Boiss. in De Cand.*

PLUMBAGO *rosea;* caulibus herbaceis erectis elatis teretibus tenuiter striatis inferne simplicibus superne ramosis, foliis magnis oblongis superne attenuatis obtusiusculis basi breviter cuneatis in petiolum brevissimum amplexicaulem exauriculatum attenuatis, floribus in spicas terminales et ex axillis superioribus oriundas longissimas virgatas laxas post anthesin elongatas dispositis, rachide spicæ glaberrima, bracteis ovatis cuspidatis subæqualibus calyce quadruplo brevioribus fere pellucidis, calyce rubello breviter cylindrico breviter et acute 5-dentato ad 5 costas tota longitudine glandulis stipitatis bifariis aliis subsessilibus intermixtis obsito, corollæ tubo tenui calyce quadruplo longiore, limbi ampli partitionibus ovatis rotundatis nervo excurrente cuspidatis. *Boiss.*

PLUMBAGO rosea. *Linn. Sp. Pl. p.* 215. *Curt. Bot. Mag. t.* 230 *(a very indifferent specimen).*

THALIA coccinea. *Lour. Fl. Cochin. ed. Willd. v.* 1. *p.* 147.

PLUMBAGO coccinea. *Boiss. in De Cand. Prodr. v.* 12. *p.* 693.

PLUMBAGIDIUM roseum. *Spach, Veg. Phan. v.* 10.

Var. *coccinea;* larger, subscandent, flowers remarkably secund, scarlet.

Few would recognize this most lovely plant as the *Plumbago rosea* ordinarily seen in stoves and greenhouses, and figured by

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Curtis at Tab. 230 of this work; yet that such is the case we have no hesitation in saying. It has long been in cultivation at Kew, and Messrs. Veitch have sent us fine specimens raised from seeds they received from the Nielgherries. Many of the leaves measure six inches in length and three in breadth. The panicle is two and more feet long; the flowers are one and a quarter inch long in the tube and more than an inch broad in the limb, remarkably secund, and the colour is a bright brick-red, partaking of nothing of that purplish hue which induced Linnæus to call the species "*rosea*." Perhaps Loureiro and Boissier had this variety (or this coloured variety at least) in view when they gave it the name of *coccinea*, but the difference is hardly such as to justify the change of the old Linnæan and well-established name of *Plumbago rosea* to *P. coccinea*, as Boissier has done. Popularly, too, "the rose *is* red."

Fig. 1. Calyx, with its beautifully-arranged glandular hairs, including the pistil,—*magnified*.

5364

W. Fitch, del. et lith.

Vincent Brooks, Imp.

Tab. 5364.

CINCHONA officinalis.

La Condamine's Peruvian Bark.

Nat. Ord. Rubiaceæ.—Pentandria Monogynia.

Gen. Char. Calyx tubo turbinato; limbo supero, 5-dentato, persistente, lobis valvatis. *Corolla* hypocrateriformis, pubescens, tubo tereti v. sub-5-gono; limbo 5-fido, lobis lanceolatis margine barbatis, valvatis. *Stamina* 5, glabra, infra medium tubi corollæ inserta; *antheræ* lineares, inclusæ v. breviter exsertæ. *Discus* carnosus, pulviniformis. *Ovarium* 2-loculare; *stylus* simplex, glaber, *stigmate* 2-fido; *ovula* perplurima, placentis axillaribus linearibus affixa, peltata. *Capsula* ovata v. oblonga v. lanceolata, 2-locularis, polysperma, septicide dehiscens. *Semina* plurima, imbricata, compressa, alata.—*Arbores et frutices sempervirentes, cortice amaro.* Folia *integerrima, petiolata;* stipulæ *interpetiolares, deciduæ.* Flores *cymoso-paniculati, albi, rosei v. purpurascentes, sæpe suaveolentes.*

Cinchona *officinalis;* foliis lanceolatis ovatis v. subrotundis acutis supra glaberrimis nitidis, dentibus calycinis triangulari-acuminatis v. lanceolatis, filamentis dimidium antherarum subæquantibus v. iis longioribus, capsula oblonga v. lanceolata floribus multo longiori, seminibus ellipticis margine denticulatis. *Weddell.*

Cinchona officinalis. *Linn. Syst. Veg. ed.* 10. *p.* 929, *and Sp. Pl. ed.* 2. *p.* 244. *Vahl, Act. Soc. Hafn, v.* 1. *p.* 17. *t.* 1. *Lamb. Monogr. p.* 16. *t.* 1. *Willd. Sp. Pl. v.* 1. *p.* 957. *Rœm. et Schultz, Syst. Veg. v.* 5. *p.* 8. *Lamk. Encycl. v.* 6. *p.* 41. *t.* 164. *f.* 1.

Cinchona Condaminea. *Humb. et Bonpl. Pl. Æquinox. v.* 1. *p.* 33. *t.* 10. *Lamb. Ill. Gen. Cinch. v.* 2. (*excl.* C. nitida). *DC. Prodr. v.* 4. *p.* 352. *Lindl. Fl. Med. p.* 414. *Weddell, Hist. Nat. des Quinquinas, v.* 37. *t.* 4. 4 *bis et* 5.

Cinchona lancifolia. *Rohde, Monog. v.* 5. *p.* 3. *excl. Syn. Fl. Peruv. fid. Wedd.*

Cinchona Academica. *Guibourt, Drogues Simples, v.* 3. *p.* 98.

Cinchona Uritusinga. *Pav. Nuev. Quinol. ed. Howard.*

Quinquina. *Condam. in Man. Acad. Paris,* 1738. *p.* 114.

It has seldom been our good fortune to figure a more interesting plant than the subject of the present Plate, for which we are indebted to John Eliot Howard, Esq., who, to the well-merited honours he has already won as the liberal and enlightened editor of the 'Nueva Quinologia' of Pavon, now adds that of being

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the first to flower a species of *Cinchona* in this country, and that species the most interesting of all in a scientific, commercial, and historical point of view. The seeds, Mr. Howard informs us, he procured from the mountains of Uritusinga itself, in Ecuador, and he has also ascertained that this is the very "Quinquina" plant that La Condamine described and attempted to bring to Europe in 1737, but which he lost after cherishing the plants through twelve hundred leagues of the voyage.

It is with reluctance that we touch here upon the much-vexed question of the nomenclature of this species, but we must adopt some name, and as there are, according to authors, seven or eight to choose from, we are compelled to vindicate our choice. To begin: in this, as in so many other cases, when once the law of priority is departed from without perfectly good cause, the door is opened to endless future change, and consequent confusion. A glance at the very limited synonymy quoted under this plant shows, what never indeed has been disputed, that the genus *Cinchona* of Linnæus, or, as he also spelt it, *Cinhona* (Gen. Pl. ed. 1767), was founded upon the one plant called "Quinquina" by La Condamine, to which Linnæus gave the specific name of *C. officinalis*. This name, which appears to us in every way unobjectionable, and which was adopted by Vahl and Lambert, Willdenow, Lamarck, and Rœmer and Schultes, was changed by Humboldt and Bonpland to *C. Condaminea* on the following grounds, which we cannot consider sufficient, viz. "because many species are truly *officinal*, and may be substituted the one for the other." Weddell, who adopts the name *Condaminea* indeed, truly says that Linnæus afterwards (but not till the twelfth edition of the 'Systema Naturæ') confounded another species, sent him by Mutis, with the original; that still other species were afterwards included by various authors under the Linnæan name; and that these reasons, together with the vagueness of the epithet "*officinalis*," led Humboldt and Bonpland to abandon the Linnæan name; but the latter authors do not so express themselves: they indeed mention the subsequent confusion, and they restrict their reasons to the vagueness of the name. But the evil does not stop here, for as Humboldt and Bonpland found several plants confounded under Linnæus's *C. officinalis*, so does Mr. Howard find that these authors have included more than one under their *C. Condaminea*, and he hence proposes the third name of *C. Uritusinga* of Pavon's MSS. for the original "*Quinquina*" of La Condamine, abandoning altogether not only the Linnæan name which, as no one disputes, was applied to this plant (and for many years to no other), but also the name of *Condaminea* of Humboldt and Bonpland, and a fourth subsequent name, *C. Academica* of Guibourt. Now the fact of Linnæus having, long after the original publication of the plant, confounded another with it, is no justification whatsoever for abandoning his name, for it is the original one, and still less is the plea of the term *officinalis* being applicable to other species, an admissible one; for not only was this plant *par excellence* the officinal Bark of Linnæus's time, but it is so to a great extent still; and if the same test was applied to our British plants, we should have to change their names by hundreds. We have therefore no hesitation in reverting to the Linnæan name, not only as an act of justice, but because we consider it in every way an applicable one. The plant confounded with it by Linnæus has already received another and universally-admitted name; and if Humboldt and Bonpland have confounded a third species with it, of which we do not see good evidence, let that species also be discriminated and named, if new.

The *C. officinalis* is not one of the several species which have been recently so largely introduced into India, though plants of it are flourishing in Ceylon and elsewhere; it is however known to yield a most valuable bark, and to have supplied a large proportion of the renowned Loxa bark of commerce.—*J. D. H.*

Fig. 1. Young leaf and stipule. 2. Portion of leaf, showing the downy spot in the axil of a nerve. 3. Flower. 4. Corolla laid open. 5. Ovary, style, and stigma. 6. Capsule:—*all except fig.* 1 *magnified.*

5365.

W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5365.

PYCNOSTACHYS URTICIFOLIA.

Nettle-leaved Pycnostachys.

Nat. Ord. LABIATÆ.—DIDYNAMIA GYMNOSPERMIA.

Gen. Char. Calyx ovatus, subæqualis, dentibus 5 subulato-spinosis. *Corolla* tubo exserto defracto bilabiata, *labio superiore* quadridentato, *inferiore* integro concavo. *Stamina* 4. *Filamenta* libera, edentula. *Stylus* apice subulatus, brevissime et æqualiter bifidus. *Nuculæ* subrotundæ, læves.—Herbæ *Africanæ vel Mascarenses, erectæ.* Verticillastri *densi, in spicas terminales simplices arcte approximati, foliis floralibus bracteæformibus calyce brevioribus. Benth.*

PYCNOSTACHYS *urticifolia ;* foliis ovatis acuminatis basi truncatis vel obtusissime subcuneatis longe petiolatis grosse serratis subtus pubescentibus, spica terminali ovata acuminata magna thyrsiformi, corollæ labio superiore erecto canaliculato lobis 4 incurvatis, inferiore amplo concavo apice insigniter intruso.

The genus *Pycnostachys* is peculiar to tropical or subtropical Africa. The first-described species is a native of Madagascar, *P. cærulea;* the second, *P. reticulata,* is derived from Natal, and the country north of it, Macalisberg; while a third, discovered by Rüppell in Abyssinia, has since been sent to us from the peak of Fernando Po, altitude seven thousand feet, and from the Cameroon Mountains, altitude six thousand, by Mr. Gustav Mann. The probability is that the genus extends across the whole continent of Africa from east to west. The three now enumerated, however, it must be confessed, have a great resemblance to each other specifically, and they are possessed of no great beauty to recommend them to cultivation. The one here represented is quite a new species, and very distinct from all the preceding, and well worthy of cultivation, from the size and beauty of the flower-spikes. Seeds of it were sent by Dr. Livingstone to Messrs. Backhouse, from "Mount Zamba," on the "Shire river," where they were gathered in September, 1859; and both seeds and dried specimens have been sent to Kew, gathered by Drs. Kirk and Meller, of the same (Zambesi) mission, on the Manganja hills, altititude three thousand feet,

5366.

W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5366.

IMPATIENS BICOLOR.

Two-coloured Balsam.

Nat. Ord. BALSAMINEÆ.—PENTANDRIA MONOGYNIA.

Gen. Char. (*Vide supra*, TAB. 5276.)

IMPATIENS (Unifloræ) *bicolor;* suffruticosa, foliis confertis petiolatis elliptico-lanceolatis obtusis v. acuminatis, basi attenuatis grosse setuloso-crenatis, pedicellis unifloris in axillis foliorum solitariis v. confertis ebrâcteolatis, vexillo parvo erecto, labello amplo late saccato basi in cornu valido ascendente incurvato contracto, alis parvis late oblongis obtusis. *Hook. fil.*

IMPATIENS bicolor. *Hook. fil. on Veg. of Fernando Po, in Journ. Proc. Linn. Soc. v.* 6. *p.* 7.

In the small island of Fernando, and on the celebrated "peak" there, at altitudes varying from two thousand to five thousand feet, the enterprising botanical traveller, Mr. Gustav Mann, detected four new species of *Balsam,* which have been described by Dr. Hooker, in the journal above quoted. The present is one of them, of which seeds were sent to Kew, and which flowered in December of 1862, the same period of the year when Mr. Mann obtained flowering specimens on its native mountain, in 1860. These were gathered at the altitude of four thousand feet. The flowers are remarkable for the pure white at the mouth, and the full purple colour of the labellum.

DESCR. *Stem* woody at the base, above herbaceous, terete, glabrous, purplish-green. *Leaves* alternate, glabrous, rather long, petiolate, patent, three to five or more inches long, elliptical-ovate, acuminate, attenuated towards the base, coarsely serrated, a few scattered, short setæ appear on the petioles, and a solitary one in the sinuses of the serratures. In the axils of the upper and more crowded leaves the single-flowered *pedicels* are produced, about two inches long, slender, glabrous, generally

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aggregated, so that the flowers form a large cluster around the upper portion of the stem, among the more crowded foliage. Lateral *sepals* small, green. *Vexillum* very convex, white, erect, green at the back. *Labellum* ample, purple, with a long, upcurved, obtuse tail, the mouth pure white.

Fig. 1. Stamens. 2. Vexillum. 3. Labellum. 4. Pistil :—*magnified.*

5367.

W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5367.

MONOCHÆTUM HUMBOLDTIANUM.

Humboldt's Monochæton.

Nat. Ord. MELASTOMACEÆ.—OCTANDRIA MONOGYNIA.

Gen. Char. (*Vide supra*, TAB. 5341.)

MONOCHÆTON *Humboldtianum;* fruticosum, ramulis quadrangulis setoso-pilosis, nodis setoso-barbatis, foliis petiolatis oblongis acuminatis basi in petiolum angustatis quintupli- vel septuplinerviis, supra inter, subtus ad nervos setoso-pilosis, pedunculis terminalibus dichotome plurifloris, calycibus striguloso-sericeis, petalis obovato-subrotundis muticis, antheris arcuatis in appendicem ascendentem bifidam productis. *Kth.*

MONOCHÆTUM Humboldtianum. *Kth. Delect. Semin. Plant. Hort. Berol.* 1844. *Collect. Adnot. n.* 15. *Walp. Repert. Bot. v.* 5. *p.* 702.

HETEROCENTRON ? Humboldtianum. *Naud. Melast. p.* 246.

One of the most lovely of the Melastomaceous plants, with large, handsome, rich red-purple flowers, the leaves bright green, the square stems and calyxes beautifully tinged with vivid red. Kunth compares its flowers, in point of size (not of colour), with those of the Evening Primrose (*Œnothera biennis*), and the affinity of the species with *Monochætum dicranantherum* of Naudin.

It is a native of the Caracas. Introduced into the Berlin Garden before 1844, whence we derived our plants, which are so great an ornament to our stoves in Kew, flowering frequently in November.

Fig. 1. Calyx, including the pistil. 2. Transverse section of the capsule. 3. Stamens:—more or less *magnified.*

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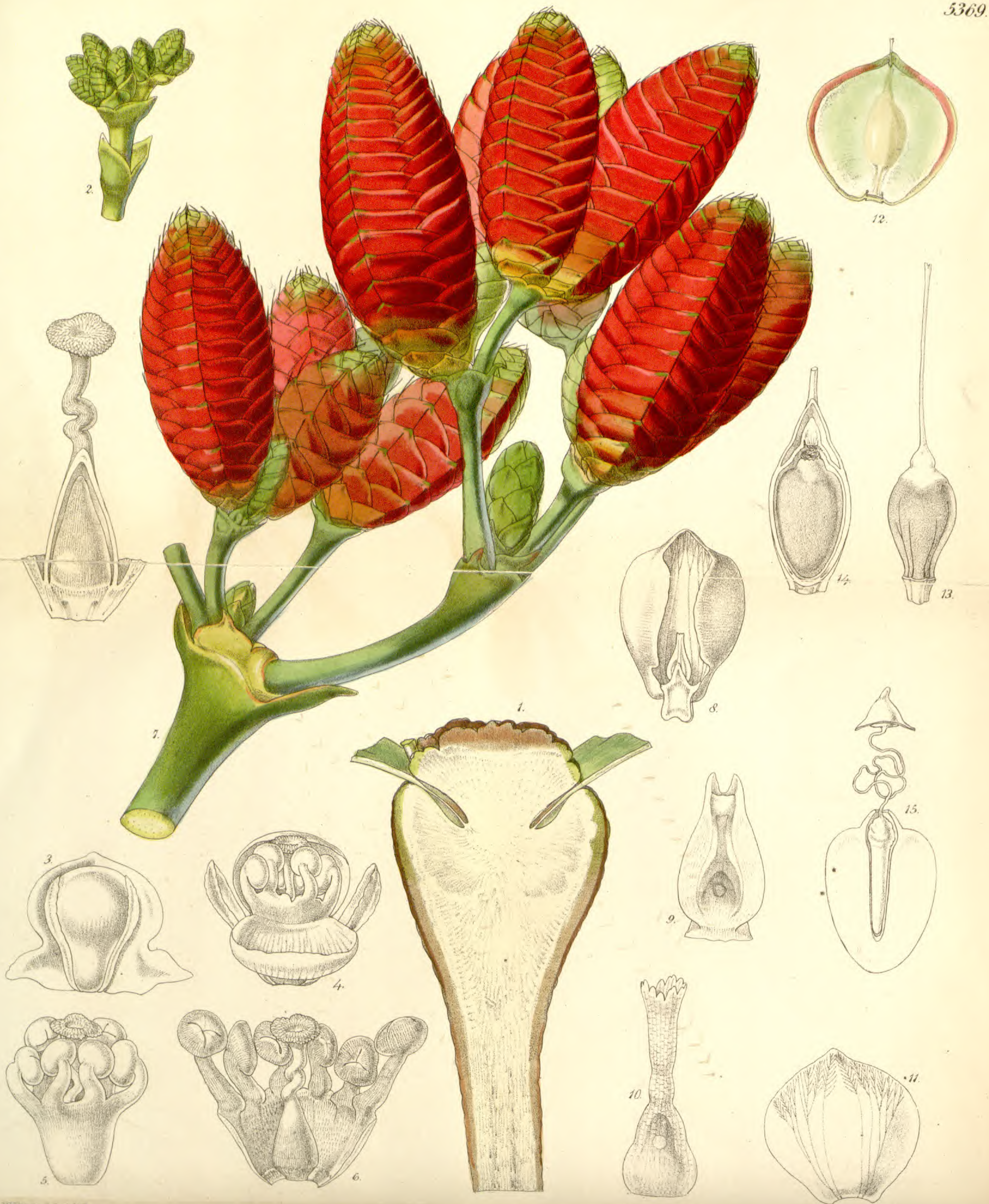
5368.

W. Fitch, del. et lith.

Vincent Brooks, Imp.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W. Fitch, del. et lith.

Vincent Brooks, Imp.

TABB. 5368, 5369.

WELWITSCHIA MIRABILIS.

African Welwitschia.

Nat. Ord. GNETACEÆ.—POLYGAMIA MONADELPHIA.

Gen. Char. *Squamæ* strobili homogami 4-fariam imbricatæ, perplurimæ floriferæ, fructiferæ valde auctæ. *Flores* hermaphroditi et fœminei. FL. HERM. *Perianthium* 4-phyllum, foliolis 2-seriatis, inferioribus connatis. *Stamina* 6, monadelpha; antheræ 3-loculares. *Ovuli* integumentum disco stigmatiformi terminatum. FL. FŒM. *Perianthium* ampullaceum, compressissimum, 2-alatum. *Ovulum* maris, sed processu styliformi recto apice simplici lacero. *Fructus* siccus, squamis membranaceis strobili velatus.—Truncus *obconicus, lignosus.* Folia 2, *opposita, longissime linearia, dilacerata,* nervis *parallelis. Hook. fil.*

WELWITSCHIA *mirabilis.*

WELWITSCHIA mirabilis. *Hook. fil. in Trans. of Linn. Soc. v.* 24. *p.* 1. *cum tabulis* I.-XIV.*

The old adage "Semper aliquid novi ex Africa provenire," holds good in the present day as in times long gone by. It is little more than two years and a half since the first knowledge of this singular plant, the subject of our two plates, reached Europe, and was contained in a letter addressed to myself by its discoverer, Dr. Frederic Welwitsch, a talented naturalist, then on a botanical mission at St. Paul's, Loanda, on account of the Portuguese Government. The account was soon published, and excited, as may be supposed, the greatest interest among the most eminent of European botanists, an interest which had never been exceeded, if equalled, since the discovery of the *Rafflesia.* Nor did it want an historian to describe fully its character and affinities, and external and internal organization; these being all fully detailed in the work above quoted. Having, however, actually received living plants at Kew, (though in a dying condition,) besides copious dried specimens, through the kindness of two gentlemen

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* The expense of the execution of this fine series of 4to plates from the pencil of Mr. Fitch, was defrayed from a grant from the fund for the promotion of science, placed annually by Parliament at the disposal of the President and Council of the Royal Society.

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still residing in South-western Africa, Joachim Monteiro, Esq., of Loando, and C. J. N. Andersson, Esq., of Damara Land, we are justified on that ground in giving it a place and a brief notice in the 'Botanical Magazine,' and thus extending a knowledge of the subject (compiled wholly from the history and figures in question) among many who may not have the opportunity of consulting the Linnean Society's Transactions. As to the cultivating of this plant in our stoves, we despair of it altogether, as much as we do of rearing the *Rafflesia Arnoldii*. Climate, soil, and native locality are all against success; yet trials should be made, and no doubt will be made, to raise it from seed, whenever opportunity may offer.

Dr. Welwitsch found the plant in 1860 inhabiting the elevated sandy plateau near Cape Negro, western tropical Africa, lat. 15° 40′ S. Mr. Thomas Baines, the able artist in Gregory's exploring expedition across North Australia, and who accompanied Dr. Livingstone on the Zambesi mission, while travelling the following year in the Damara country, in lat. 24° or 25° S., and about 500 miles south of Cape Negro, was so struck with the appearance of this same plant, that he made coloured drawings of it and others, as illustrative of the vegetation of the country, and had the goodness to send them to me, accompanied by some cones; but these latter were packed without being dried, and being a long time *en route* to the Cape and to Europe (more than a year), and being packed with the succulent leaves of a gigantic Aloe, they arrived in a very decayed state. Happily, however, the cones contained ripe seeds, which by hardening in alcohol enabled Dr. Hooker to satisfy himself of their great similarity in development and structure with those of *Cycadeæ* and *Gnetaceæ*. The native name "*Tumbo*" was communicated both by Dr. Welwitsch and Mr. Baines; but as the same name is given to the gigantic Aloe of the country, it is a generic rather than a specific name among the aborigines: for to the branch of the cones Mr. Baines had written, "called by the Hottentots '*Ghories*,' and by the Damaras '*Nyanka-Hykamkop*.'" As we were now in possession of specimens, however imperfect, of this wonderful plant from Mr. Baines, and very anxious that its discovery should be announced, Dr. Hooker wrote to Dr. Welwitsch, reminding him of a request he had made, that a full account of his discovery should appear in the Linnean Transactions, and urging him either to make the plant known himself to the scientific world, or to send his specimens here for publication; proposing at the same time that it should be allowed to bear his name, and to be called *Welwitschia mirabilis*. M. Monteiro (as already mentioned) also sent us plants collected at Mossamedes (Little Fish Bay of the English charts) in 1862. These were gathered during "a journey of about thirty miles into the interior from the coast, in ground of a hard quartzose character, and were generally growing near the little ruts worn in the plain by running water during the rainy season." Several Portuguese of Cape Negro assured him that they had seen specimens measuring (as Dr. Welwitsch had informed him) six feet across the apex of the trunk, and even larger, with the ribbon-like leaves two and even three "*bracas*" (fathoms) long!

I have now, in reference to the few intelligent persons who have seen the plant in its native plains, only to make a brief extract from the letter of the eminent African traveller, C.. J. Andersson, Esq , while resident in Damara Land, at Otjim Cingué, Feb. 12th, 1862; this was written in the absence of Mr. Baines, in reply to some queries I had addressed to him: "The plant you inquire about, and which has so much awakened your curiosity, is well known to me. Indeed, it is so peculiar as scarcely to be mistaken, even from the rudest description. It is only found in one single locality, that is as regards Damara Land, which locality is exceedingly circumscribed. It grows moreover in sandy places, and luxuriates when it can find a few stones where to fix its extraordinary tap-root, penetrating often several feet deep, so that it is indeed a work of labour and patience to extract one single plant. I have been thus occupied more than an hour, and even then I have come away with only a portion of the root. The leaves attain a length of several feet, a small portion at the point only being withered; in other respects they are evergreen; they are straight-grained, and you can tear them from top to bottom without deviating a single line from a straight course. Rain rarely or never falls where this plant exists. I have crossed and re-crossed Damara Land throughout its entire length and breadth, but only found the plant growing on that desperately arid flat, stretching far and wide, about Waalvisch Bay, or between the 22nd and 23rd degrees of south latitude. It is most common about the lower course of the river Swakop. But I feel my description is very inadequate to the subject, and shall endeavour therefore to procure the plant itself, and forward it at an early date to England.* Indeed, I would have sent plants years ago, had I not been under the impression that you had already specimens of it, for I assisted Mr. Wollaston once to excavate a couple, which I thought he purposed presenting to the Kew Gardens. I know that the specimens were received at the Botanical Garden at Cape Town, for I saw them there only the other day, pitched away among some rubbish. No one seemed to take the slightest notice of them, which rather surprised me, since the plant cannot well escape even the dullest eye, it is so singular." [This latter statement is most discreditable to the authorities of that Colonial Garden, and such as we trust is unknown in any other.]

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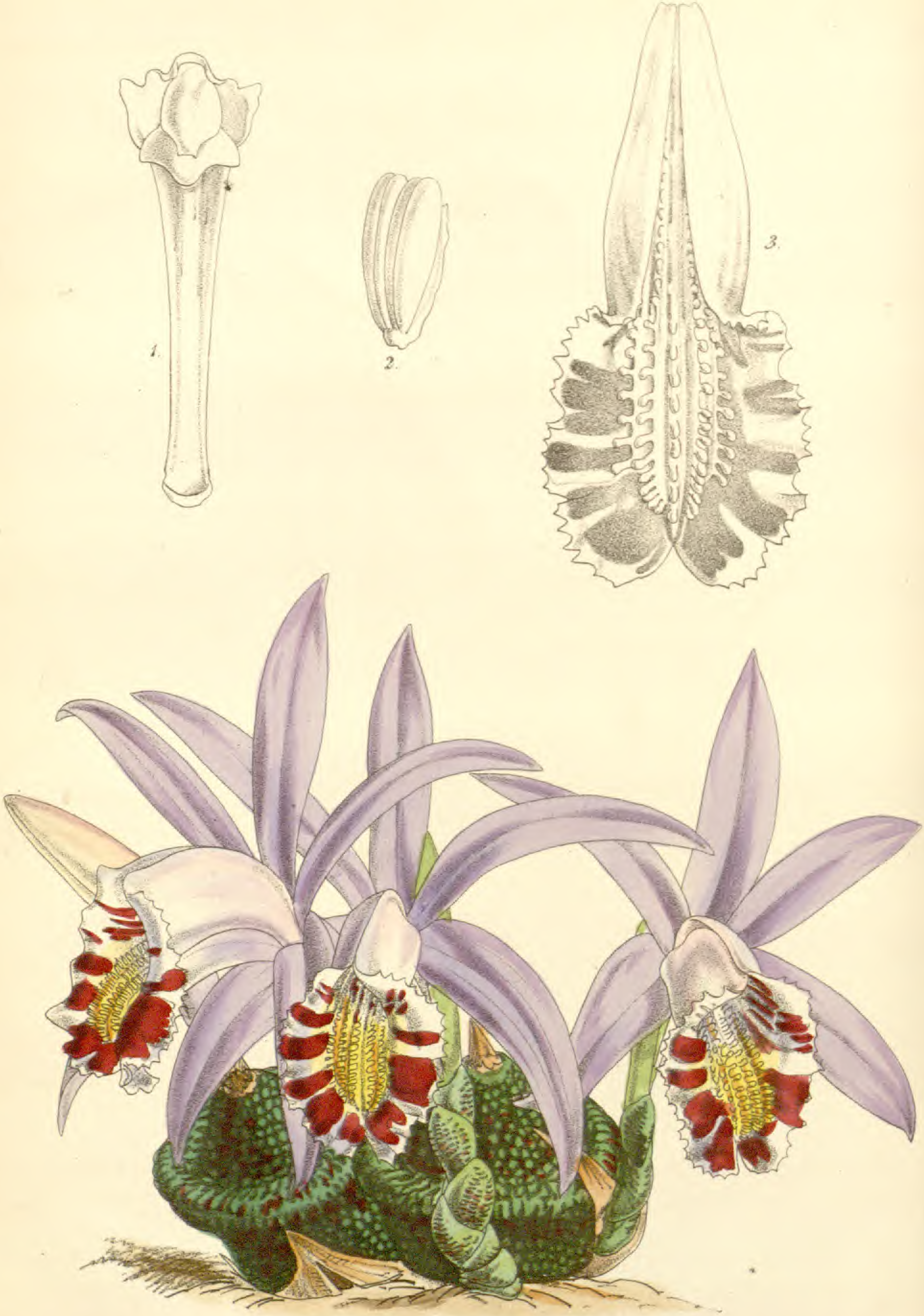
* This promise has been promptly performed.

DESCR. In this we shall confine ourselves to the more popular portion of Dr. Hooker's. We must refer for the more scientific history to the Linnean Transactions. "It is a *woody plant,* said to attain a century in duration, with obconic *trunk* about two feet long, of which a few inches only rise above the soil, presenting the appearance of a flat two-lobed depressed mass, sometimes, according to Dr. Welwitsch, attaining 14 feet in circumference, and looking like a round table. When full grown, it is dark-brown, hard and cracked over the whole surface, much like the burnt crust of a loaf of bread: the lower portion forms a stout *tap-root,* buried in the soil, and branching downwards at the end. From deep grooves in the circumference of the depressed mass, two enormous *leaves* are given off, each six feet long (and probably often much more) when full grown, one corresponding to each lobe of the trunk: these are quite flat, linear, very leathery, and split to the base into innumerable thongs, that lie curling upon the surface of the soil. Its discoverer describes these same two leaves as being present from the very earliest condition of the plant, and assures me that they are in fact developed from the two cotyledons of the seed, and are persistent, being replaced by no others. From the circumference of the tabular mass above, but close to the insertion of the leaves, spring stout, dichotomously branched *cymes*, nearly a foot high, bearing small erect scarlet *cones*, which eventually become oblong, and attain the size of those of the common Spruce Fir. The *scales* of the cones are very closely imbricated, and contain, when young and still very small, solitary *flowers*, which in some cones are hermaphrodite (structurally but not functionally), in others female. The *hermaphrodite flower* consists of a *perianth* of four pieces, six monadelphous stamens, with trilocular globose anthers, surrounding a central ovule, the integument of which is produced into a styliform sigmoid tube, terminated by a discoid apex. The *female flower* consists of a solitary erect *ovule*, contained in a compressed utricular *perianth*. The mature cone is tetragonous, and contains a broadly-winged *fruit* in each scale. Every part of the plant exudes a transparent gum."—*Welwitschia* is a dicotyledonous plant, belonging to the gymnospermous group of that class, and having a very close affinity with both *Ephedra* and *Gnetum*, but differing from all previously known gymnosperms in having hermaphrodite flowers, and in wanting the disk-bearing wood-cells." Notwithstanding these peculiarities, Dr. Hooker places it in the Nat. Ord. *Gnetaceæ*, of which it is the only South African representative.

TAB. 5368.—Fig. 1. Copy of the drawing of a young flowering plant, believed to be from fifteen to twenty years old, made by Don Ferdinand da Costa Leal for Dr. Welwitsch,—*on a greatly reduced scale.* 2. An old plant, from which the panicles have fallen, as often seen in the deserts,—*reduced to about one-fourteenth of the natural size.*

TAB. 5369.—Fig. 1. Longitudinal section of a very small and young specimen of the trunk, taken through both leaves, showing the insertion of the latter, —*natural size.* 2. Peduncle and cones of hermaphrodite flowers, immediately previous to expansion,—*natural size.* 3. Scale of the cone, with bud of hermaphrodite flower in its axis. 4. Flower, with the inner perianth scale drawn back, showing the staminal tube and discoid apex of the ovule. 5. Stamens and enclosed ovule. 6. The same laid open, showing the position of the ovule:—*magnified.* 7. Branch of the panicle,—*natural size.* 8. Young scale, with the female flower seated on a conical prominence of the rachis. 9. Female flower, at the period when changes commence in the embryo-sac. 10. Ovule. 11. Back view of a scale from the female cone:—*magnified.* 12. Upper scale, *natural size*, containing a nearly mature seed. 12*. (By an accident this figure stands without a number on the Plate.) Ovule, with the lower part of the integument removed in front, exposing the nucleus. 13. Ripe seed and base of pericarp, showing the ramifications of vascular bundles in its walls. 14. Longitudinal section of seed, showing the calyptriform integument at its apex, the only other integument being the nucleus terminating upwards in its fleshy cone. The obovoid mass in the interior is the albumen, crowned by the coiled-up suspensor. 15. Longitudinal section of the albumen, showing the embryo, with its suspensor still attached to the cone of the nucleus above:—*magnified.*

5370.



W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5370.

CŒLOGYNE LAGENARIA.

Flask-shaped Cœlogyne.

Nat. Ord. ORCHIDEÆ.—GYNANDRIA MONANDRIA.

Gen. Char. (*Vide supra*, TAB. 5323.)

CŒLOGYNE (Pleione) *lagenaria;* pseudobulbis lagenæformibus nebulosis, bractea cucullata acuta basi longe angustata, sepalis petalisque lineari-lanceolatis, labello rotundato integerrimo emarginato lineis 5-barbatis. *Lindl.*

CŒLOGYNE lagenaria. *Lindl. in Paxt. Fl. Gard. v.* 2. *t.* 39. *f.* 2. (*under* Pleione); *Fol. Orchid. Cœlogyne, p.* 15. *n.* 39. *Reichenb. fil. in Walp. Annal. Bot. v.* 6. *p.* 234.

"The genus *Pleione* of Don (corresponding with *Gomphostylis*, Wall.)," says Dr. Lindley, "possesses something so peculiar in habit, that it would be desirable to find some means of separating them from *Cœlogyne.* Occasionally I have imagined that they might be defined by such characters as a saccate lip, an undivided lip furnished by bearded and lamellate veins, or by the divisions of the flower tapering to the base instead of being obtuse; but the last peculiarity, on which I had much relied, is so entirely set aside by *C. Hookeriana,* which has the form of *C. cristata,* that after all I find it necessary to leave them as an alpine form of *Cœlogyne,* in the hope that future observers will discover some sound generic character. All the species are alpine. The secret of their successful cultivation in England lies in keeping them cool and dry while at rest, and forcing them with heat, moisture, and light as long as they are inclined to grow." The present beautiful species, from Himalaya, flowered at the Nursery of Mr. Jackson, at Kingston. It is unfortunate that the leaves do not appear along with the blossoms; but certainly the markings of the latter and the singular form of the pseudobulbs recommend the species to every Orchid-grower.

DESCR. *Pseudobulbs* clustered, very remarkable in form, somewhat flask- or bottle-shaped, flattened below the conical neck, and there lapping over, like the lid of a box; they are green mottled with brown, and more or less wrinkled, and in a young state bear a solitary *leaf* at the summit. *Scapes* one to two, from the very base of the pseudobulbs, stout, and shorter than they, clothed with large concave ovate imbricated *bracts*. *Flowers* large, solitary, very handsome. *Sepals* and *petals* uniform, narrow lanceolate, rose-colour, spreading. *Lip* very large, convolute at the base around the column, spreading, and waved and crisped at the margin, white mottled with yellow and deep-purple. *Column* elongated.

Fig. 1. Column and anther. 2. Pollen-masses. 3. Front view of the lip:—more or less *magnified*.

5371.

W. Fitch, del. et lith.
Vincent Brooks, Imp.

TAB. 5371.

ENCEPHALARTUS HORRIDUS; var. *trispinosa.*

Three-toothed Encephalartus.

Nat. Ord. CYCADEÆ.—DIŒCIA POLYANDRIA.

Gen. Char. FLORES MASCULI: *Antheræ* apertæ, in *strobilum* terminalem pedunculatum collectæ, undique rachi communi insertæ, singulo oblongo-cuneatæ, apice incrassato-obtusæ vel acuminatæ acumine sursum flexo, connectivo plus minus distincto. FLORES FŒMINEI: *Carpidia* plurima monophylla, aperta, in *strobilos* terminales pedunculatos collecta, rachi communi undique inserta, singula basi in stipitem attenuata apice in peltam rhomboideam dilatata, *pelta* subtus utrinque ovulo unico inverso, fœta. *Fructus* syncarpium, e *carpidiis* laxiuscule coalitis. *Semina* ovoidea, *testa* ossea, sæpius carpidii processu fungoso cupulatim excepta. *Embryo* inversus, in axi albuminis carnosi, *radicula* respectu racheos communis centripeta.—Arbores *interdum giganteæ in Africa australi subtropica (regione Caffrorum) et in Nova Hollandia extratropica obviæ,* frondibus *pinnatis,* pinnis *lata basi sessilibus multinerviis, apice sæpe spinoso-denticulatis. Endl.*

ENCEPHALARTUS *horridus;* caudice glabro vel lanuginoso, rachi stipiteque obtuse tetragonis glabris, foliolis oppositis alternisve pruinoso-glaucis viridibusve lanceolatis, forma polymorphis, infimis (rarissime fere omnibus) integerrimis vel margine inferiore uni-tridentatis aut uni-bidentatis apice bifido, rarius margine superiore breviter unidentato, dentibus omnibus spinoso-pungentibus, plerumque grandioribus divaricatis, conis solitariis glabris, maribus elongato-cylindraceis, fœminis ovoideis. *Miq.*

ENCEPHALARTUS horridus. *Lehm. in Pugill. v.* 6. *p.* 14. *Miq. Monogr. Cycad. p.* 37, *and in Linnæa, v.* 17. *p.* 726.

ZAMIA horrida. *Jacq. Fragm. p.* 27. *t.* 28.

Var. *trispinosa;* foliolis apice spinosis, margine inferiore laciniis duabus elongatis spinoso-pungentibus. (TAB. NOSTR. 5371.)

Perhaps there are few families of plants which require a more complete and careful revision than that of *Cycadeæ.* Lehmann, Miquel, and De Vriese have done much towards their illustration, but their characters have been too frequently taken from imperfect and often garden specimens, and they are too often incorrectly named. The present plant has long been cultivated at Kew as a Cape species of *Encephalartus,* under an impression

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that it was the *Zamia tridendata* of Willdenow, but that plant (now *Encephalartus*, Lehm.), as shown by the figure in Miquel's work, l. c., taken from Willdenow's original specimen in his herbarium, is totally distinct, and more like a *Macrozamia* than an *Encephalartus*. After the most careful examination of our plant, I can only come to the conclusion that it is one of the many varieties of *E. horridus*, with a great tendency to have, on the inferior margin of the pinnules, two large spinescent laciniæ, which, in conjunction with terminal spines, justify the application of the term var. *trispinosa*.

Fig. 1. Plant with a male cone,—*one-fifth of the nat. size.* 2. Pinnæ,—*nat. size.* 3. Male cone,—*nat. size.* 4. Under side of a scale from the male cone. 5. View of the upper side of a scale. 6. Anther:—*magnified.*

5372.

W. Fitch, del. et lith.

Vincent Brooks, Imp.

Tab. 5372.

CODONOPSIS CORDATA.

Heart-leaved Codonopsis.

Nat. Ord. Campanulaceæ.—Pentandria Monogynia.

Gen. Char. Involucrum uniflorum, 5-partitum, lobis dentatis. *Calyx* hemisphæricus ovoideusve, ovario adnatus, limbo truncato (an semper?). *Corolla* 5-fida vel apice 5-loba. *Stamina* 5, involucri foliolis opposita, *filamenti* basi latioribus. *Stylus* inclusus. *Stigmata* 5, linearia, demum revoluta. *Ovarium* 5-loculare, omnino inferum. *Capsula* globosa, corolla persistente terminata, demum nuda, apice areolata, ibique *valvis* 5 brevibus dehiscens. *Loculi* cum involucri foliolis alternantibus, ideoque lobis corollæ oppositi. *Semina* plurima, parva, lenticularia. *De Cand.*

Codonopsis *cordata;* perennis, ramis volubilibus glabris, foliis oppositis petiolatis cordato-ovatis acutis hirsutiusculis subtus glaucescentibus crenato-serrulatis 3–5-nerviis, pedunculis axillaribus unifloris petiolo suo longioribus foliis brevioribus, alabastro hirsuto, calycis tubo plano germini adnato, laciniis oblongo-lanceolatis obsolete serrulatis, corollæ viridi-flavescentis lobis paulo longioribus, bacca truncata nunc ½-sphærica nunc apice subpentagona basi tereti crassa violacea, calycis laciniis augmentatis vegetis subæquilonga, corolla emarcida longiter persistente coronata, receptaculis carnosis, seminibus ellipsoideis. *Haskl.*

Codonopsis cordata. *Haskl. in Retzia, v.* 1. *p.* 9. *Walp. Ann. Bot. Syst. v.* 5. *p.* 393.

The flowers of this gracefully-climbing plant are large, but sadly deficient in colour as compared with the rich blue of the corollas of *C. gracilis*, Hook. fil., figured at t. 16 of the 'Illustrations of Himalayan Plants.' This is a native of moist woods in Java, at altitudes on the mountains of 3500 to 8000 feet above the level of the sea, and was sent to us by Dr. Anderson, of the Calcutta Botanic Garden. The general aspect of the plant is not unlike that of *C. rotundifolia*, figured at Tab. 4942 of this work, and the flowers are nearly of the same colour; but here the corollas are much more spreading, and what at first sight appears very remarkable, the segments of the calyx, called by

De Candolle an involucre, are entirely free from the ovary; the apparent calyx-tube that surrounds the latter being really the base of the tube of the corolla.

Fig. 1. Pistil and stamens, the ovary surrounded by the adnate base of the corolla, and, beneath it, is the base of the calyx,—*magnified*.

5373.

W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5373.

LYCIOPLESIUM PUBIFLORUM.

Downy-flowered Lycioplesium.

Nat. Ord. SOLANACEÆ.—PENTANDRIA MONOGYNIA.

Gen. Char. LYCIOPLESIUM, *Miers. Calyx* ovato-campanulatus, 5-dentatus, persistens. *Corolla* tubulosa, tubo 5-partito, æstivatione lobis acutis valvato-plicatis, margine tomentosis. *Stamina* 5, corollæ longitudine ultra basin inserta, subinæqualia, *filamentis* insertione villosis, vel omnino glabris; *antheris* oblongis, bilobis, basi cordatis, longitudine dehiscentibus. *Ovarium* obovatum, biloculare, *placentis* e dissepimento formatis, multiovulatis. *Stylus* simplex. *Stigma* bilobo-capitatum. *Semina* numerosa, parva, compressa, reniformia, albuminosa. *Embryo* cylindricus, annularis. *Miers, in Illustr. S. Am. Bot. p.* 10, *in note.*

LYCIOPLESIUM *pubiflorum;* spinosum, ramis rugoso-striatis asperiusculis, foliis juxta axillam spinæ fasciculatis ellipticis acutis in petiolum brevem latiusculum alternatis nitidis margine pubescentibus spinam vix æquantibus, pedunculis solitariis v. in apice rami congestis e ramulo abbreviato oriundis patentibus calycem subæquantibus calyceque et corolla extus pube ferruginea densa et brevi tomentosis, corollæ (1″ longæ, 4–5‴ latæ), tubo campanulato calycem quinquefidum patulum intus glabrum limbumque 5-partitum subinæqualem quadruplo superante, lobis rotundato-acutiusculis intus glabris cum plicis minutis alternantibus, staminibus basi pilosis styloque exsertis. *Griseb.*

LYCIOPLESIUM pubiflorum. *Griseb. Syst. Bemerk. Pflanzensam. Philippi's und Lechler's in Südl. Chili, etc.* (1854), *p.* 40.

LATUA venenata. *Philippi, in Bot. Zeit. Aug.* 1858. *p.* 24.

An extremely handsome Solanaceous plant, lately received by Messrs. Veitch and Sons from South Chili, Valdivia, from their collector, Mr. Richard Pearce,* with the name *Latua venenata.* This is a name we find published and the plant fully described by Dr. A. Philippi, of St. Jago de Chili, in the 'Botanische Zeitung' for August 13th, 1858; but it was previously published by Dr. Grisebach from Dr. Philippi's specimens (and that botanist is probably the discoverer*) in the work, l. c., published in 1854, under the generic name of *Lycioplesium* of Miers, and as *L. pubiflorum*, a name we consequently adopt. It is, indeed, a most charming plant, and coming from the latitude of Chiloe there is every reason to believe it will prove hardy. It was deemed prudent, however, to protect one of them against a wall, as the plant has a drooping or pendent habit, covering it only with a glass movable frame, and about the middle of February it produced the lovely flowers here represented. It is said to be a spinous shrub, but our specimen did not exhibit these spines. The habit of the shrub seems to be a good deal that of a *Habrothamnus*, and the shape of the flowers (though infinitely larger) is not much unlike that of *Habrothamnus* (or *Cestrum*, as it is now considered to be) *fasciculatus*. The leaves appear to be partially deciduous in winter.

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* We gladly correct an unintentional omission under Tab. 5343 (*Berberidopsis corallina*), where we mentioned Mr. Pearce as the discoverer of that most charming new shrub. We should have added that Mr. Pearce is the South American collector for Messrs. Veitch and Sons, and from the latter were received the specimens figured. We may here state that the *Berberidopsis* has borne the winter unharmed, without any shelter, and not a leaf been injured.

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Fig. 1. Corolla laid open. 2. Pistil. 3. Section of the ovarium :—*magnified.*

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* We have however specimens in our herbarium gathered by Mr. Wm. Lobb, in Chiloe, in 1848.

W. Fitch, del. et lith.

Vincent Brooks Imp.

TAB. 5374.

CYRTANTHUS LUTESCENS.

Yellow-flowered Cyrtanthus.

Nat. Ord. AMARYLLIDEÆ.—HEXANDRIA MONOGYNIA.

Gen. Char. Perigonium superum, corollaceum, elongato-tubuloso-infundibuliforme, *limbo* 6-fidum, leviter curvatum, interdum parum ventricosum; *laciniis* brevibus, subæquilongis, multinerviis, *exterioribus* calloso-acutis; *interioribus* latioribus, obtusis. *Stamina* 6, supra medium tubi libera, recta, inclusa, alterna longiora. *Antheræ* lineares, dorso infra medium affixæ, mobiles. *Ovarium* inferum, trigonum, triloculare; *ovula* in loculis crebra, biseriata, funicularia, horizontalia. *Columna* stylina filiformis, erecta vel declinata, stamina superans, exserta. *Stigma* breviter trifidum. *Capsula* trigono-ovata, trilocularis, loculicido-trivalvis. *Semina* plurima, paleaceo-compressa; *testa* nigra.—Herbæ *Capenses, bulbiferæ, scapigeræ.* Bulbus *tunicatus.* Folia *elongata, angusta, plana vel subcanaliculata.* Scapus *teretiusculus vel compressiusculus, fistulosus.* Spatha *di-polyphylla, uni-multiflora.* Flores *pedicellati,* bracteis *linearibus scariosis interstincti, sæpe penduli. Kth.*

CYRTANTHUS (§ Monella) *lutescens;* floribus 4–6 pallide luteis fragrantibus anguste infundibuliformibus, filamentis brevissimis, foliis lineas tres latis linearibus acuminatis.

CYRTANTHUS lutescens. *Herb. Amaryll. p.* 129. *Kth. Enum. Plant. v.* 5. *p.* 539.

CYRTANTHUS albo-luteus. *Burch. Herb. n.* 7144.

MONELLA ochroleuca. *Herb. App. p.* 29.

One of the many interesting Cape bulbs lately presented by William Wilson Saunders, Esq., to the Royal Gardens of Kew, part of the collections made by Mr. Cooper in South Africa during extensive journeys into the interior. This species of *Cyrtanthus* was known to Mr. Herbert, but only from dried specimens in Mr. Burchell's herbarium. It is now for the first time introduced to our gardens, and produced its graceful and very fragrant flowers in a warm greenhouse in February, 1863. It is less closely allied to *C. odorus* of Gawler (in Bot. Reg. t. 503) than Mr. Herbert considered, for not only are the flowers crimson in the latter, but the leaves are less than one-third of the diameter of those of our plant, and narrow for their whole length, and obtuse.

Fig. 1. Flower, laid open to show the style and the stamens. 2. Transverse section of the ovary :—*magnified.*

W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5375.

CALANTHE VEITCHII: *hybrida.*

Mr. Veitch's Calanthe. Garden hybrid.

A hybrid between CALANTHE VESTITA (*Bot. Mag. t.* 4671) and LIMATODES ROSEA (*Bot. Mag. t.* 5312).

The following account of this singular production appeared in the 'Gardeners' Chronicle' for 1859, p. 1016:—

"Of all the beautiful Orchids obtained by hybridizing, this curious plant stands first. It forms a tuft of flower-stems one foot and a half high, loaded with blossoms of the richest rose-colour of different degrees of intensity. Mr. Dominy produced it in the Nursery of Messrs. Veitch and Sons, of Exeter, by fertilizing *Limatodes rosea*, a rich rose-coloured beautiful Indian Orchid, with that variety of the white *Calanthe vestita* which has a deep purple spot at the base of the lip. The result has been most curious; the hybrid, although completely intermediate between the two parents, yet shows a rather greater tendency to its mother than its father. Of the father it has exactly the manner of growth and the peculiar four-lobed lip; but it has the rich colour of its mother, and some other peculiarities of her lip, along with an entire correspondence in form with her column.

"The following comparison of the three will explain this still more clearly.

"A.—CALANTHE VESTITA: *Male plant.*

"1. Pseudobulbs fleshy, conical, bluntly angular.
"2. Spur curved.
"3. Flowers white, with a deep purple spot at the base of the lip.
"4. Sepals and petals secund.
"5. Lip adhering to the column, flat at base, with four deep blunt lobes.
"6. Column deep, large, compressed, quite smooth.
"7. Pollen-masses eight, deep yellow, adhering by two smooth separate straps.

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"B.—LIMATODES ROSEA: *Female plant.*

"1. Pseudobulbs narrow, stem-like.
"2. Spur straight.
"3. Flowers, a clear uniform rose-colour.
"4. Sepals and petals spreading equally.
"5. Lip free from the column, rolled up at the base, undivided.
"6. Column small, terete, downy at the back.
"7. Pollen-masses eight, pale-yellow, adhering to two rough connate straps.

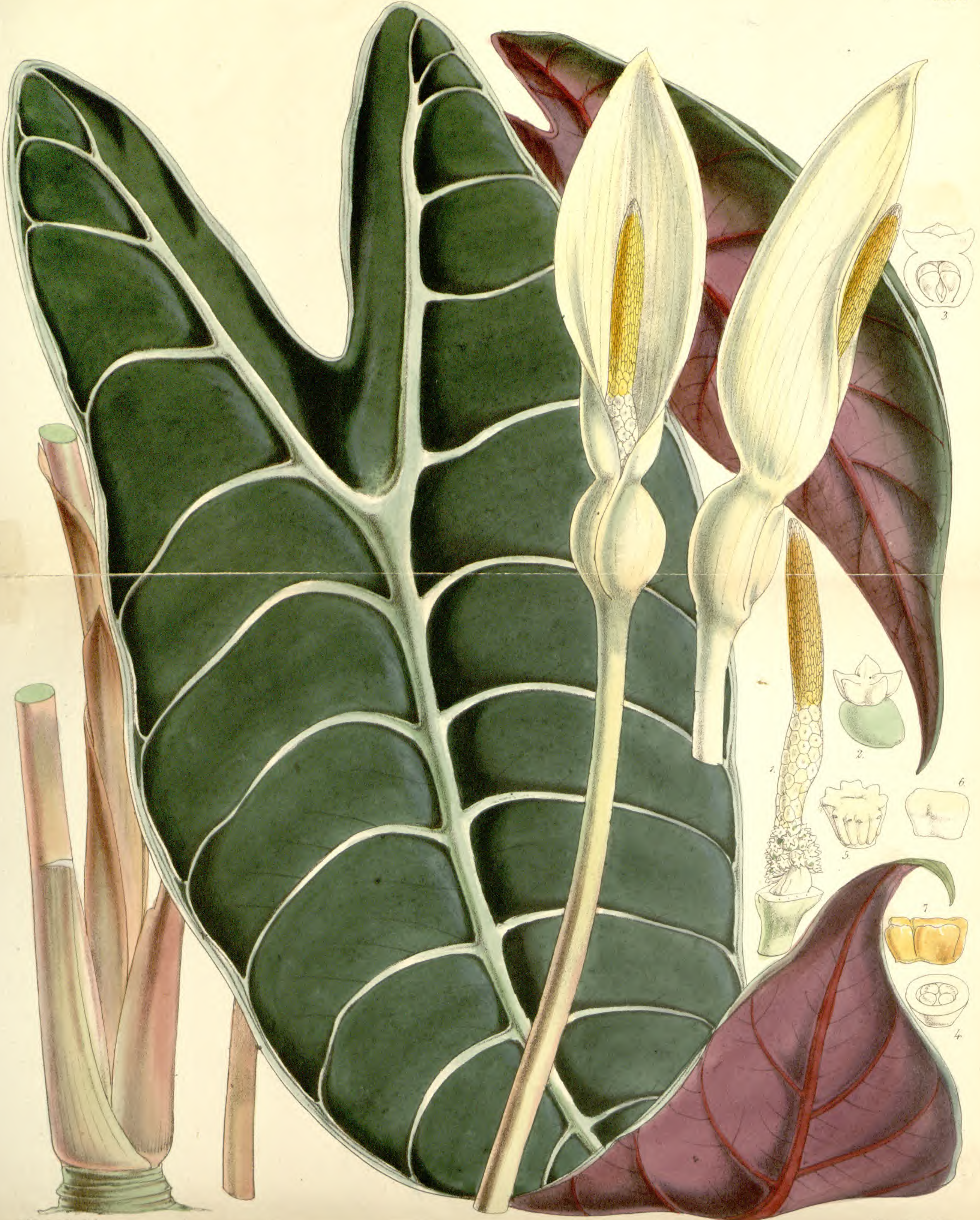
"CALANTHE VEITCHII: hybrid *between the two foregoing.*

"1. As in A. 2. As in B., but longer. 3. As in B. 4. As in B. 5. As in A., but rolled up at the base, as in B. 6. As in B. 7. As in B."

The plant from which our figure is taken was communicated by Messrs. Veitch and Sons.

Fig. 1. Column, spur, and ovary. 2. Pollen-masses of *C. Veitchii:—magnified.*

5376.



W. Fitch, del. et lith.

Vincent Brooks Imp.

TAB. 5376.

ALOCASIA LOWII.

Mr. Low's Alocasia.

Nat. Ord. AROIDEÆ.—MONŒCIA MONANDRIA.

Gen. Char. (*Vide supra*, TAB. 5190.)

ALOCASIA *Lowii;* acaulis, foliis longe petiolatis cordato-sagittatis acuminatis supra atroviridibus sinu profundo, costis costulis margineque crasso albis, subtus purpureis, scapis basi vaginato-bracteatis superne teretibus albis, spatha alba inferne convoluta globosa, lamina oblonga obtusa concava, spadice spatha breviore, ovariis laxiusculis subglobosis viridibus, stylo nullo, stigmate sessili lobis 5 profundis acutis.

This is another of the many handsome species of *Alocasia* of which I can find no description, and lately introduced from the Malayan Archipelago. It has been received by Messrs. Hugh Low and Son, of the Clapton Nursery, from Borneo. It flowered in their stove in January, 1863. It will unquestionably be one of the most desirable for cultivation.

DESCR. Root an elongated, perennial, subcylindrical *tuber*. *Leaves* radical, when of full size 14–16 inches long, 5 inches wide in the broadest part, cordato-sagittate, with a very deep sinus at the base, forming two large, oblong, obtuse, deflexed lobes, acuminate at the apex, very dark-green above, with the stout costæ and its primary branches or costules as well as the margin white, beneath deep-purple. *Petioles* about equal in length to the leaf, terete, inserted at a distance from the bottom of the sinus, clothed in the lower half with large sheathing, pale-purplish scales. *Scape* as long as the leaf, terete, white, purplish below, sheathed in the lower half with similar scales to those of the petiole. *Spatha* 4½ inches long, white, constricted near the base, the base itself, or tubular portion, subglobose, the rest of the spatha or lamina oblong, acute, very concave, faintly striated. *Spadix* shorter than the spatha, the base of it

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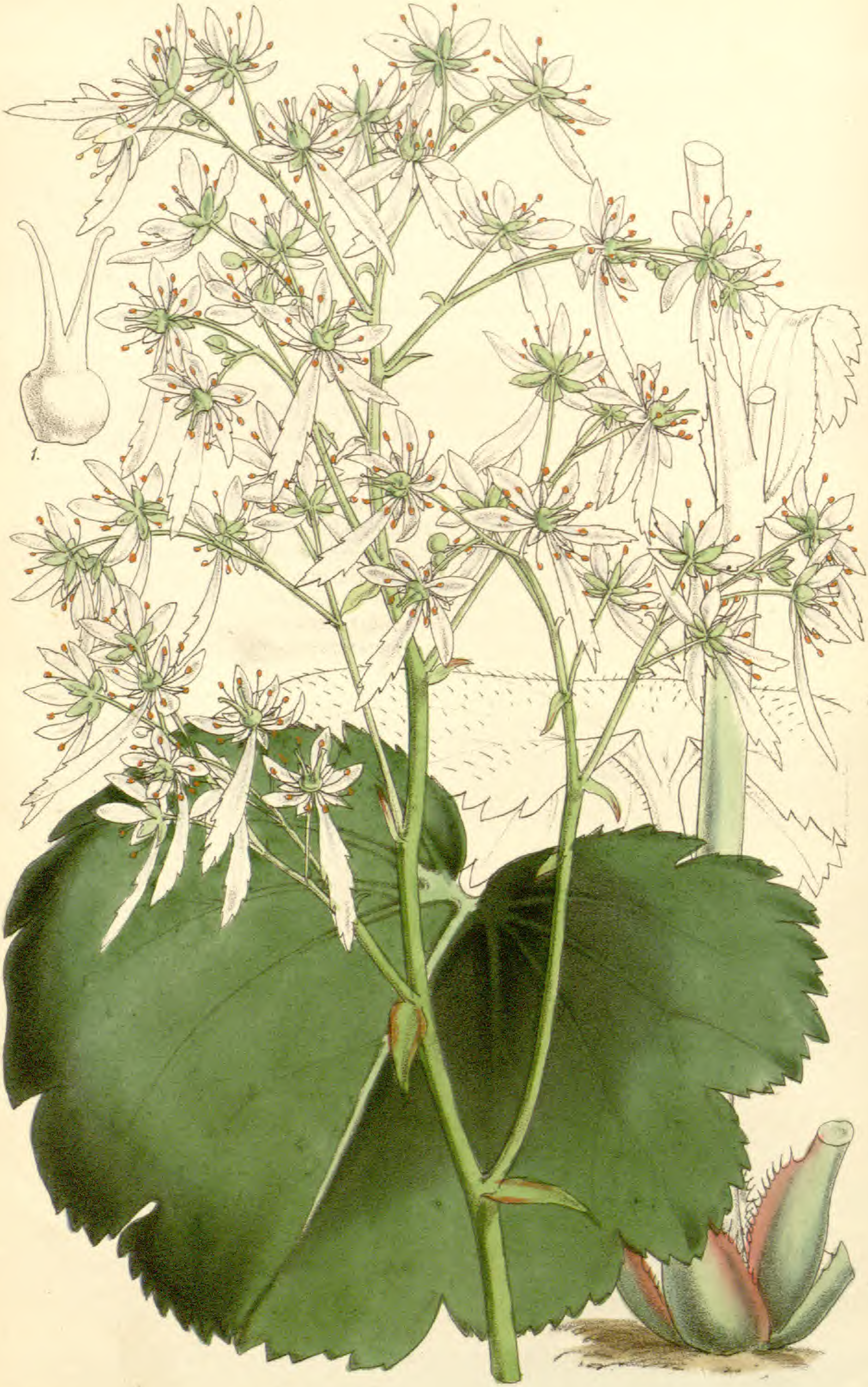
occupied by several rather lax, subglobose, green *ovaries*, one-celled, with four *ovules*, and crowned with a sessile, acutely five-lobed, fleshy *stigma*, the lobes spreading, the apex, for an inch and a half in length, clothed with fleshy, yellow, irregularly-shaped bodies, *abortive stamens.* Between these the spadix is occupied by the sessile, fleshy *anthers*, flat at the summit, the anther-cells arranged along the side of this connectivum.

Fig. 1. Spadix, *natural size.* 2. Pistil. 3. Vertical section of ditto. 4. Transverse section of ditto. 5. Anther, with its cells. 6. Transverse section of an anther-cell. 7. Abortive stamens:—*all more or less magnified.*

5377.



W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5377.

SAXIFRAGA FORTUNEI.

Mr. Fortune's Saxifrage.

Nat. Ord. SAXIFRAGACEÆ.—DECANDRIA DIGYNIA.

Gen. Char. *Calyx* liber v. inferne cum ovarii basi connatus, quinquefidus v. 5-partitus. *Corollæ petala* 5, perigyna, unguiculata, æqualia v. interdum inæqualia. *Stamina* perigyna; *filamenta* subulata, *antheræ* biloculares, longitudinaliter dehiscentes. *Ovarium* liberum v. semi-inferum, biloculare, *placentis* dissepimento adnatis, multiovulatis. *Styli* 2, distincti vel rarius basi connati; *stigmata* subtruncata v. capitata. *Capsula* semisupera v. tandem libera, bilocularis, birostris, inter rostra loculicide dehiscens septo utrinque placentifero. *Semina* plurima, ovoidea; *testa* lævi v. rugosa, adnata. *Embryo* in axi albuminis carnosi, brevis, subcylindricus, orthotropus.—Herbæ *perennes habitu multiformi, in hemisphærii borealis temperatis et frigidis, imprimis alpinis, magno specierum numero luxuriantes, in summis Americæ tropicæ jugis raræ, in America australi extratropica rarissimæ;* foliis *radicalibus sæpissime rosulatis;* caulinis *alternis v. interdum oppositis, petiolorum basi plerumque dilatata;* floribus *paniculatis v. corymbosis aut abortu solitariis. Endl.*

SAXIFRAGA *Fortunei;* sarmentosa?, foliis radicalibus longe petiolatis reniformi-cordatis villosis subseptem-lobatis, lobis rotundatis grosse acuteque laciniato-serratis unicoloribus, petiolis basi dilatato-vaginatis, vaginis ciliato-dentatis, scapo paniculato multifloro, floribus albis, petalis inæqualibus, 4 minoribus lanceolatis integerrimis vel subintegerrimis, quinto (inferiore) valde elongato grosse laciniato-serrato.

Most people, even if they are not botanists, are familiar with the pretty *Saxifraga sarmentosa* of Linnæus, figured in this work at Tab. 92 (published in 1789), and popularly known as the *Strawberry Saxifrage*, still cultivated in many cottage windows, but utterly neglected in the gardens of the curious; a native of China and Japan. In those countries, comparatively little yet known to botanists, other species allied to it may be looked for. Siebold and Zuccarini have already published one such in their *S. cortusæfolia*, from Japan; and now we have to publish a second, among the many discoveries of Mr. Fortune, in Mr. Standish's Nursery, Bagshot. The specimen sent by the latter, and here figured, does not exhibit any sarmentose character, but it will

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probably appear when the plants are more advanced. It differs in many points from the two species just mentioned, from *S. sarmentosa* particularly in the pure white flowers and the whole-coloured leaves; but we believe Mr. Standish will soon be able to make known a variety with such richly-coloured foliage as will throw this normal state, pretty and elegant as it is, quite in the background.

5378.

W. Fitch, del. et. lith.

Vincent Brooks, Imp.

TAB. 5378.

HÆMANTHUS NATALENSIS, *Pappe.*

Natal Hæmanthus.

Nat. Ord. AMARYLLIDACEÆ.—HEXANDRIA MONOGYNIA.

Gen. Char. (*Vide supra*, TAB. 4745.)

HÆMANTHUS *Natalensis;* caulescens, foliosus, basi squamis 3-4 amplis orbiculari-oblongis obtusis amplexantibus arcte imbricatis pallide viridibus purpureo-punctatis apice ferrugineo-purpureis, foliis amplis caulinis oblongis acutis basi longe vaginantibus immaculatis, scapo terminali crasso elongato apice præcipue semitereti, involucri hexaphylli bracteis amplis foliaceis subæqualibus pulchre ferrugineo-purpureis umbello subbrevioribus apice undulatis, perianthii laciniis erectis linearibus viridibus erectis, ovario fructibusque globosis.

HÆMANTHUS Natalensis. *Pappe, in litt. cum ic.*

This is a charming greenhouse plant. It will be at once seen that it is a near ally of our *Hæmanthus insignis*, from the same country, figured by us at Tab. 4745 of this work, and belonging to the same group or section characterized by the "folia cylindraceo-vaginantia, floris limbo erecto," and no less so by the size and rich colouring of their flower-heads. But the present one is essentially distinguished by the large beautifully-coloured and dotted sheathing scales at the base of the plant, by the much longer leaves, by the pale-green colour of the flowers, the orange-coloured stamens and styles, and by the nearly uniform bracteas of the involucre, of a most rich ferrugineous-purple colour, shorter than the flowers.

It was first made known to us as a native of Natal by the late Dr. Pappe, some years ago, and lately we had the great pleasure of receiving bulbs from the same country, from Dr. Sanderson, in 1862; and they flowered and adorned our Cape-bulb house by blossoming in February of the present year, 1863.

Fig. 1. Single flower from the umbel; and 2, pistil:—*both magnified.*

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W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5379.

SCILLA NATALENSIS.

Natal Squill.

Nat. Ord. LILIACEÆ.—HEXANDRIA MONOGYNIA.

Gen. Char. (*Vide supra*, TAB. 5308.)

SCILLA *Natalensis;* bulbo crasso ovoideo-subgloboso squamoso, foliis subcoætaneis lineari-lanceolatis (potius lato-lanceolatis) acuminatis acutis, scapo erecto tereti foliis longiore, racemo simplici longo multifloro, bracteis ad basin cujusvis subulatis pedicello plane evoluto subpollicari fere dimidio brevioribus, floribus pallide et amœne cæruleis, perianthii sexpartiti stellato-patentis laciniis ellipticis obtusis, staminum filamentis edentulis subulatis albis perianthio brevioribus, ovario ovato triloculari, stylo acuto. *Planch.*

SCILLA Natalensis. *Planch. in Fl. des Serres, ser.* 1. *v.* 10. *t.* 1043.

Introduced to Europe by Mr. Van Houtte, from Natal, and published in the 'Flore des Serres,' above quoted. M. Planchon justly notices its affinity with the Cape *Scilla plumbea* of Dr. Lindley, in Bot. Reg. t. 1355; but, besides the differences stated by M. Planchon, that species has very few flowers in the raceme, while this is remarkable for its very numerous ones. It is a graceful and elegant species; the pedicels are of the same pale-blue colour as the corollas.

Fig. 1. Fully expanded flower. 2. Pistil:—*magnified.*

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W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5380.

HETEROTROPA PARVIFLORA.

Small-flowered Heterotrope.

Nat. Ord. ARISTOLOCHIEÆ.—GYNANDRIA DODECANDRIA.

Gen. Char. Perigonium coloratum, urceolatum, tubo late ventricoso, basi cum ovario connato, fauce angustata, annulo introflexo plicato, *limbi* trifidi laciniis cordatis, æstivatione induplicatis. *Stamina* 12, disco perigyno, ovarii parti liberæ adnato inserta; 6 exterioribus (stigmatibus opposita) *filamentis* triangularibus, antherarum loculis subintrorsis, *connectivo* submutico interposito sejunctis, 6 interiora alterna, filamentis nullis, *antherarum* sessilium, *loculis* extrorsis, connectivo dorsali in acumen lanceolatum producto contiguis. *Ovarium* semi-inferum, sexloculare. *Ovula* in loculorum angulo centrali plurima, adscendentia. *Styli* 6, connati, stellatim expansi, *singuli* obcordati, inferne stigmatiferi; *stigmata* ovato-attenuata pupillosa.—Herbæ *Japonicæ, habitu* Asari, *perennes;* foliis *binis, profunde cordatis, obtusis, albo-maculatis;* floribus *axillaribus, solitariis vel geminis, breviter pedicellatis,* folio abortivo *bracteatis, intus sordide fuscis,* faucis *annulo albido. Endl.*

HETEROTROPA *parviflora;* foliis solitariis cordatis albo-maculatis sinu profundo angusto, floribus solitariis bracteatis, perianthii urceolati tubo supra medium constricto inferne ovali-ventricoso, limbi laciniis late ovatis, bracteis flore longioribus.

Received through the kindness of Henry Edward Hoey, Esq., of Yokohama, Japan. At first, we supposed it to be identical with the *Heterotropa asaroides* of Morren and Decaisne, in 'Annales des Sciences Naturelles,' 2nd Series, vol. ii. p. 314, t. 10. But the flowers are half the size of that, almost veined in the bracts, quite different in the shape of the perianth (broad turbinate in the base of the tube in that), and with quite different stigmas. I cannot therefore do otherwise than describe it as a new species.

I am aware that Messrs. Morren and Decaisne unite the genus *Heterotropa* with *Asarum,* and they are probably correct in so doing.

Fig. 1. Flower. 2. Flower laid open to show the interior. 3. Ovary and stigmas. 4 and 5. Outer and inner stamens. 6. Style and stigma. 7. Longitudinal section of ovary. 8. Transverse section of ovary :—*all magnified.*

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W.Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5381.

ZOSTEROSTYLIS ARACHNITES.

Cobweb Zosterostylis.

Nat. Ord. ORCHIDEÆ.—GYNANDRIA MONANDRIA.

Gen. Char. Sepala æqualia, libera, acuminata, patula. *Petala* conformia minora. *Labellum* liberum, canaliculatum, sessile, posticum, inappendiculatum, columnam intra basin excavatam fovens. *Columna* brevissima, crassa; *clinandrio* trilobo. *Anthera* ovata, a stigmate fere disjuncta, rostrata, bilocularis, loculis discretis. *Pollinia* 2, biloba.—Herbæ *terrestres*, radicibus *fasciculatis*. Folia *petiolata*. Scapus *radicalis vaginatus*. Flores *sessiles distantes*, bracteis *conspicuis*. *Lindl.*

ZOSTEROSTYLIS *arachnites.*

ZOSTEROSTYLIS arachnites. *Bl. Beitr. p.* 418. *Tabellen*, 32. *Lindl. Gen. et Sp. Orchid. p.* 446.

ZOSTEROSTYLIS Zeylanica. *Lindl. Gen. et Sp. Orchid. l.c. Thwaites, Enum. Pl. Ceyl. p.* 312.

ZOSTEROSTYLIS Walkeræ. *Wight, Ic. t.* 1748. 4.

CRYPTOSTYLIS arachnites. *Reichenb. fil. in Bonplandia*, 1857, p. 37.

This interesting Orchideous plant, peculiar to Java and Ceylon, is referred by Dr. Lindley to the tribe *Neottieæ*, and the division *Cranichideæ*, and is placed next to Mr. Brown's Australian genus *Cryptostylis*, to which it has perhaps too close an affinity, as observed by Dr. Lindley, who however considered the *clinandrium* to be of a different form; and the flowers are singularly drooping or nutant in *Cryptostylis*, while they are erect in *Zosterostylis*. My specimens from Ceylon appear to be quite identical with those from Java, and there is, I fear, but one species of the present genus, if genus it may be considered.

DESCR. *Root* fascicled, consisting of a few elongated cylindrical *tubers*. *Leaves* long-petioled, ovate, rather sharply acuminated, striato-nervose, the nerves connected by transverse veins. *Scape* six or eight to eighteen inches high, much sheathed with *bracteas;* the base and the *petioles* dark-purple. *Spike* lax,

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three, four, to eight inches long, few or many-flowered. *Flowers* sessile, bracteated. *Ovary* clavate. *Petals* linear, dull-green, and, as well as the longer sepals, much spreading. *Lip* erect, elliptical-ovate or lanceolate, acute, grooved, more or less pubescent or arachnoid, yellowish, mottled with dull-purple and marked with longitudinal lines of the same colour. *Column* very short, thickly sunk in a cavity at the base of the lip; its apex (*clinandrium*) three-lobed.

Fig. 1. Front view of a flower. 2. Narrower form of the lip. 3. Side view of the column. 4. Front view of a column. 5. Pollen-masses:—*all more or less magnified.*

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J. Schoenfeld, del., W. Fitch, lith.

Vincent Brooks, Imp.

TAB. 5382.

COCCOLOBA PLATYCLADA.

Flat-branched Lobe-berry.

Nat. Ord. POLYGONEÆ.—OCTANDRIA TRIGYNIA.

Gen. Char. Flores hermaphroditi. *Perigonium* subcoloratum, quinquepartitum, subæquale, demum increscens. *Stamina* 8, *perigonii* laciniis exterioribus geminatim interioribus singillatim opposita, uno inter interiora contigua sito; *filamenta* subulata, basi cohærentia; *antheræ* globoso-didymæ, versatiles. *Ovarium* trigonum, basi cum perigonio connatum, uniloculare. *Oculum* unicum basilare, orthotropum. *Styli* 3, distincti; *stigmatibus* capitatis. *Caryopsis* triquetra, spongiosa, perigonio baccato tecta partimque connata. *Semen* triquetrum, erectum. *Embryo* in axi albuminis farinacei antitropus; *cotyledonibus* latiusculis undulatis, *caudicula* supera.—Arbores *Americanæ, frutescentes;* ramis *vaginatis;* foliis *alternis, sessilibus v. petiolatis;* ochreis *herbaceis, oblique truncatis;* floribus *racemosis v. spicis oppositifoliis elongatis;* bracteis *ochreis conformibus. Endl.*

COCCOLOBA *platyclada;* fruticosa, glabra, erecta, ramis complanatis pellucentibus subtiliter striatis aphyllis v. dissitis foliatis, foliis membraneis oblongo- v. hastato-lanceolatis v. hastatis, bracteis stipulisque perbrevibus margine eciliatis, floribus solitariis v. frequentius in fasciculos laterales pauci- v. plurifloros collectis subsessilibus, staminibus inclusis, fructibus parvis ovatis v. subglobosis sursum profunde sulcatis, caryopside lævi triquetra. *Muell.*

COCCOLOBA platyclada. *Ferd. Mueller, collect.*

POLYGONUM (Homalocladium) platycladum. *F. M. in the Transact. Philos. Inst. of Victoria, v.* 2. *p.* 73.

"This remarkable plant was discovered at Wanderer Bay, Solomon's Islands, by Mr. Milne, during Captain Denham's Voyage of H.M.S. Herald, and a living specimen of it was communicated to Messrs. Shepherd, of the Darling Nurseries, of Sydney, from whence the plant was received at the Melbourne Botanic Garden.* Although naturally growing in swampy localities and in a tropical region, we find it not only thriving well in ordinary flower-borders, but also resisting the occasional light frosts of the winter season at Melbourne. Being throughout the year covered with innumerable blossoms, generally interspersed with bright-red and finally dark-purple berries, we regard this plant, irrespective of its curious flat, leaf-like ramifications, also in a horticultural point of view, as one of the most interesting acquisitions of our gardens, and anticipate, that ere long it will become a general garden favourite. Grown in the conservatory, the plant produces mainly leaves, but continues usually flowerless; and when even cultivated in the open air in the Australian lowlands, leaves are sparingly or hardly developed, whilst instead the flowers are produced in the utmost exuberance. Our cultivated plants have as yet never produced any fertile seeds, and consequently the generic position of this species remains as yet doubtful, especially since no genuine species of *Coccoloba* is hitherto known from the eastern hemisphere; and since the habit of our plant is quite at variance with any other member of the Order. Indeed it is not improbable that our plant is referable to *Muehlenbeckia,* under which name it has been distributed from our herbarium, or it may, on future examination of the embryonic characters, be proved that the plant represents a peculiar genus, to which then the published sectional name, *Homalocladium,* may be given. It is most readily multiplied from cuttings."—*F. Mueller.*

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* Specimens sent from the above locality to Kew by Mr. Milne are destitute of flower; but the living plants have increased both at Sydney and at Melbourne, and we have growing plants from both establishments.

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Our plate represents a leafing and a flowering specimen;—of which a beautiful drawing and the above description were communicated by Dr. Mueller.

Fig. 1. Flower, side view. 2. Front view of ditto. (3 is omitted.) 4. Stamen. 5. Pistil. 6 and 7. Side and front view of a fruit, surrounded by the persistent perianth. 8. Caryopsis. 9 and 10. The same cut through vertically and transversely:—*magnified.*

W. Fitch, del. et lith.
Vincent Brooks Imp

TAB. 5383.

HIGGINSIA GHEISBECHTII.

Gheisbecht's Higginsia.

Nat. Ord. RUBIACEÆ.—TETRANDRIA MONOGYNIA.

Gen. Char. (*Vida supra*, TAB. 5280.)

HIGGINSIA *Gheisbechtii;* elata, 3–4-pedalis et ultra, caule ramisque alato-tetragonis, foliis oblongo-lanceolatis acuminatis supra puberulis velutino-viridibus subtus purpureo-rubris in petiolis lato-alatis longe decurrentibus perfoliatis cum stipulis triangularibus junctis, pedunculis brevibus, cymis axillaribus brevibus aggregatis plurifloris.

CAMPYLOBOTRYS Gheisbechtii. *Linden, Cat.* 1863 (*name only*).

This handsome stove-plant was sent to us in 1862, by M. Verschaffelt, of Ghent, under the name of *Campylobotrys Gheisbechtii;* and it appears in Linden's Catalogue for 1863, but with no character or description. It is no doubt a native of South America, and probably of New Granada, and is remarkable not only for the beauty of the foliage, rich velvety-green above and purple beneath, but for the sharply quadrangular stem and branches, with a very conspicuous wing at each angle.

DESCR. Suffruticose, two to four feet high when well grown; the *branches* green, herbaceous, elongated, and, as well as the stem, thick and acutely tetragonal, with a very conspicuous wing at each angle. *Leaves* large, a foot and more long, broad oblong-lanceolate, acuminate, entire, much decurrent and attenuated at the base, so as to be sessile, or rather perfoliate, for there is no perceptible petiole, dark rich velvety-green above, very slightly pubescent, dull purple-red beneath, strongly penninerved and subplicate, the *veins* very prominent beneath. *Stipules* short, triangular, united with the decurrent and perfoliate base of the leaves. *Peduncles* short, axillary, aggregated, bearing small *cymes* of few or several yellow *flowers,* having a reddish spot in the disk. *Pedicels* very short. *Calyx* slightly pubescent. *Corolla*

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with the tube twice as long as the calyx, and the *limb* of four spreading segments, as long as the tube. *Style* and *stamens* exserted.

Fig. 1. Entire flower. 2. Calyx and pistil :—*magnified.*

5384.

W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5384.

ANGULOA RUCKERI.

Mr. Rucker's Anguloa; blood-coloured var.

Nat. Ord. ORCHIDEÆ.—GYNANDRIA MONANDRIA.

Gen. Char. Flores subglobosi, nunquam patentes. *Sepala* lateralia invicem imbricantia, basi valde convexa, nec in cornu producta; alterum nunc anticum nunc posticum, conforme, basi planum. *Petala* sepala dorsali æqualia, et similia. *Labellum* coriaceum, unguiculatum, subconvolutum, semivolutum, trilobum, *lamina* carnosa lata plana, supra medium auctum, hinc quasi bilabiatum. *Columna* teres, clavata, libera; *clinandrio* nunc mutico, nunc lacinia acuta porrecta utrinque acuto. *Anthera* galeata, valvis membranaceis nunc in lacinulas acutas productis. *Pollinia* 4, plana, inæqualia, *caudicula* longa lineari, et glandula acuta.—Herbæ *epiphytæ, Granatenses et Peruvianæ,* Lycastis *facie. Lindl.*

ANGULOA *Ruckeri;* pedunculo unifloro radicali squamis infimis imbricatis vaginato, sepalis subrotundis apiculatis obtusis in globum conniventibus, labelli trilobi antici lobis lateralibus obtusis æqualibus medio piloso infundibulari bilabiato, labio altero emarginato altero tridentato, columna integra. *Lindl.*

ANGULOA Ruckeri. *Lindl. Bot. Reg.* 1846. *t.* 41.

Var. *β*. sanguinea. *Lindl. in Gard. Chron.* 1854. *p.* 271.

The original *Anguloa Ruckeri,* a native of Columbia, is described and figured by Dr. Lindley, l.c., as "immediately recognized by its flowers having deep crimson spots, on a yellow ground, and a deep crimson lip. The form of the latter again approaches that of *A. Clowesii,* but it is less hairy, and the lateral lobes are blunt, as well as shorter. Moreover, it is not resupinate, in the common acceptation of the term." Our specimen, here represented, instead of having the ground-colour of the inside of the flower yellow with red spots, is, except the labellum, of a deep rich blood-colour, a variety recorded in the 'Gardeners' Chronicle' as being in the possession of Messrs. Rollison, to whom we are indebted for the plant here figured. The size and colour and form of the flower are very striking.

Fig 1. Labellum:—*magnified.*

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W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5385.

PLEUROTHALLIS REYMONDI.

Reymond's Pleurothallis.

Nat. Ord. ORCHIDEÆ.—GYNANDRIA MONANDRIA.

Gen. Char. Sepalum dorsale liberum, *lateralia* sæpe cohærentia, basi in mentum s. gibbulum producta. *Petala* libera nana, v. sepalis subæqualia. *Labellum* c. basi magis minusve producta columnæ articulatum, varie tuberculatum v. divisum, sæpius petalis minus. *Columna* elongata aut nana, teres aut membranaceo-alata, truncata aut clinandrio membranaceo-marginata; rostello porrecto, plano, erecto, aut elongato-convexo. *Anthera* terminalis aut subdorsalis, opercularis. *Pollinia* libera, cereacea, sæpius duo obovata aut pyriformia, raro 4 (maxima pro parte ignota aut inscripta).—Caules *e rhizomate orti, sæpissime monophylli, subnudi v. arcte vaginati, nunc inter muscos in rhizoma serpens quasi abscondita* (Prorepentes); rhizoma *nunc elongatum polyphyllum* (Caulescentes). Folia *coriacea.* Flores *axillares, spathacei, sessiles, solitarii, aut racemosi, nunquam minimi ut in* Stelide. *Lindl.*

PLEUROTHALLIS (Restrepioideæ) *Reymondi;* folio coriaceo lineari-lanceolato obtuso acuminato caule breviore, vaginis asperis manicatis, sepalis pubescentibus oblongis dorsali majore antico bifido breviore, petalis bilobis lobo altero rotundato altero elongato clavato, "labello oblongo minuto basi concavo ante excavationem bicornutulo." *Lindl.*

PLEUROTHALLIS Reymondi. *Reichenb. fil. in Walp. Ann. v.* 3. *p.* 520. *Lindl. Fol. Orchid. Pleurothallis, p.* 21.

DUBOISIA Reymondi. *Karst. in Allg. Gartenz.* 1847. *p.* 394.

DUBOIS Reymondia palpigera. *Karst. in Bot. Zeit. v.* 6. *p.* 397.

This is one of the most remarkable in the structure of its flowers of the numerous species of *Pleurothallis*, now including, according to Reichenbach fils, no less than seventy-eight species. Our living plant was received from Mr. Schiller, and it appears to have been introduced from the Caraccas by Mr. Wagener, who detected it at an elevation of 6000 feet above the level of the sea.

DESCR. The *root* is a creeping *rhizome,* bearing aggregated, rounded, slender, terete, simple *stems,* ten to twelve inches long, clothed with long, pale, straw-coloured, black, setose, cylindrical sheaths. *Leaf* carnose, thick, solitary, terminal, subulate, carinated at the back, the margins reflexed. *Flower* small, arising from the base of the leaf, sessile, the *ovary* concealed by a large hispid bract. *Perianth* green, purple within ; *dorsal sepal* free, ovate, convex ; *lateral ones* ovate, combined into one, which is very concave, gibbous at the base ; *petals* white, spotted with dark-purple, linear, reflexed, singularly dilated at the base, each terminated by a bivalved, subglobose, almost black lobe ; *labellum* small, suddenly reflexed near the middle, ovate, with a blunt tooth at each side, the *disk* bicarinate : *column* short, semiterete, the margin winged, bearing a tooth just below the anther, on each side.

Fig. 1. Front view, and 2, side view of a flower. 3. Flower, with the sepals removed, front view. 4. Side view of the same. 5. Back of the petals. 6. Labellum. 7. Side view of the column and anther. 8. Pollen-masses :—*magnified.*

5386.

W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5386.

ASPIDISTRA PUNCTATA: *albo-maculata.*

Dotted-flowered Aspidistra; spotted-leaved var.

Nat. Ord. ASPIDISTREÆ.—OCTANDRIA MONOGYNIA.

Gen. Char. Flores hermaphroditi, solitarii. *Perigonium* corollinum, campanulatum, 6–8-fidum; *laciniis* patentibus. *Stamina* 6–8, perigonii tubo inserta; *filamenta* adnata; *antheræ* dorso affixæ. *Ovarium* minimum, subcylindricum, 3–4-loculare. *Ovula* in loculis 2, superposita, amphitropa. *Stylus* ovario continuus, brevis, crassus; *stigma* discoideum, maximum, radiato-triquadrilobum, perigonii faucem recludens. *Fructus* . . . .—Herbæ *acaules, glabræ, in China australi et Japonia observatæ;* rhizomate *annulato, sobolifero;* foliis *subbifariis solitariisve, petiolatis, vaginatis, oblongo-lanceolatis, nervoso-striatis;* pedunculis *radicalibus unifloris, squamoso-bracteatis;* floribus *sordide purpureis. Endl.*

ASPIDISTRA *punctata;* rhizomate crasso annulato esquamoso, foliis pedalibus et ultra longe petiolatis junioribus vaginato-bracteatis, scapis brevibus bracteatis, bracteis (sæpe) perianthioque octo-lobato pallide viridibus minute purpureo-punctatis.

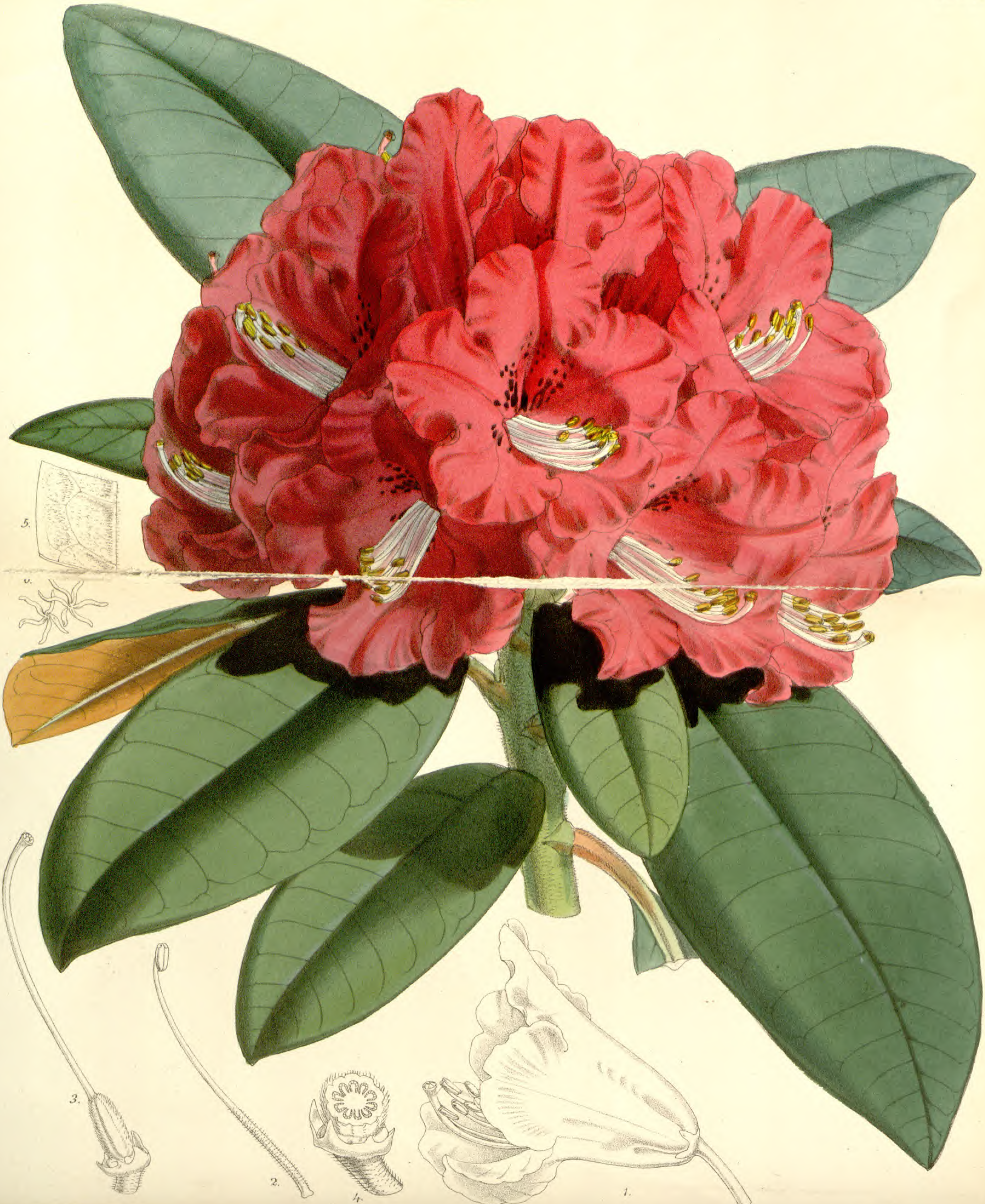
ASPIDISTRA punctata. *Lindl. Bot. Reg. t.* 977. *Kth. En. Plant. v.* 5. *p.* 312.

Var. *β.* foliis albo-maculatis. (TAB. NOSTR. 5386.)

The flowers of the genus *Aspidistra* are very curious in structure. The present species is a native of China, but hitherto only known from Dr. Lindley's figure, above quoted. The variety here represented is peculiar, from the size of the leaves, and from being copiously spotted with pure white. We are indebted for the opportunity of figuring it to Mr. Bull, of Chelsea. It probably requires the protection of a greenhouse. It flowers in February.

DESCR. *Rhizome* elongated, annulated, thick, creeping, of a pale-grey colour, and in our sample, at least, destitute of scales. *Petiole* three to four inches long, deep-channelled on one side. *Leaf* a foot long, broad, oblong-lanceolate, acuminated, striated with veins, which are distinct and wide apart, and further striolated with much closer, parallel, and much less distinct lines; in the present instance very clearly spotted with white, less distinct on the under side. *Peduncles* or *scapes* rising from the rhizome, thick, one to two inches long, clothed with imbricated *bracts*. *Perianth* carnoso-coriaceous, campanulate, octofid (four lobes external and four internal), pale-green, minutely dotted with purple or brown on the outside, purplish within; near the base of the tube are eight, sessile, ovate *anthers*, and within them a small, conical, four-celled *ovary*, tapering into a short *style*, and crowned with a very large, purple, peltate *stigma*, wrinkled on the surface and four-lobed at the margin, the lobes bifid.

Fig. 1. Vertical section of a flower, showing the anthers, ovary, and great peltate stigma. 2. Transverse section of an ovary.—*magnified*.



W Fitch, del et lith.

Vincent Brooks, Imp.

TAB. 5387.

RHODODENDRON BATEMANI.

Mr. Bateman's Rhododendron.

Nat. Ord. ERICACEÆ.—DECANDRIA MONOGYNIA.

Gen. Char. (*Vide supra*, TAB. 4336.)

RHODODENDRON *Batemani;* ramulis robustis tomentosis, foliis elliptico-oblongis oblongo-lanceolatisve subacutis basi obtusis acutisve supra glabris opacis subtus petioloque robusto tenuiter ferrugineo- v. ochreo-tomentellis, capitulis dense sub-11–20-floris, calyce parvo cupulari inæqualiter 5-dentato, corolla campanulata 5-loba, lobis patentibus undulatis, staminibus 10, ovario tomentoso 10-loculari.

This noble plant is one of the many fine discoveries of Mr. Booth, in the Bhotan Himalaya, and was sent by him to his relative the late T. Nuttall, Esq., of Nutgrove, Cheshire. From his hands it passed into those of James Bateman, Esq., F.L.S., of Knypersley Hall, Staffordshire. Mr. Bateman having flowered it in the early spring of the present year, liberally presented the plant to the Royal Gardens of Kew, where it is now growing in the new Winter Garden. As a species, it resembles *R. campanulatum* (Tab. Nostr. 3759) in certain respects, attaining about the same stature, and having the leaves clothed below with similar ochreous tomentum; but the whole habit is far more robust, the foliage larger, and much longer and narrower, the stout branches tomentose; the flowers are of a very different colour, and it further differs essentially in the ten-celled ovary.

DESCR. A robust *shrub* four to five feet high at the period of its first flowering in this country. *Branches* as thick as the little finger. *Branchlets* rather loosely clothed with pale-rusty wool. *Leaves* spreading, very coriaceous, on short, stout, tomentose *petioles*, elliptic- or lanceolate-oblong, subacute, margins rather recurved, four to eight inches long, very opaque above, below laxly clothed with thin ochreous or rusty-brown soft tomentum of stellate hairs, blunt at the base, or narrowed into the petiole.

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Head nearly globular, of twelve to twenty closely-placed flowers. *Peduncles* pubescent, about one inch long. *Calyx* small, cupular, with five unequal, acute, subulate, or triangular teeth. *Corolla* two and a half inches across, campanulate, of a deep crimson-red colour, the five *lobes* rounded, spreading, undulate. *Throat* with a few dark blotches posteriorly. *Stamens* ten, with slender filament, and small brown anthers. *Ovary* terete, tomentose, ten-celled.

Fig. 1. Flower. 2. Stamen. 3. Calyx and pistil. 4. Cross section of ovary. 5. Portion of under surface of leaf. 6. Hairs from ditto :—*all but Fig.* 1, *magnified.*

5388.

W. Fitch del. et lith.

Vincent Brooks, Imp.

Tab. 5388.

ORNITHOGALUM capitatum.

Capitate Ornithogalum.

Nat. Ord. Asphodeleæ.—Hexandria Monogynia.

Gen. Char. Perigonium hexaphyllum, foliolis patentibus. *Stamina* 6, hypogyna; *filamenta* subulata. *Ovarium* triloculare. *Ovula* in loculis plurima biseriata, horizontalia, anatropa. *Stylus* triqueter, rectus. *Stigma* obtusum, trigonum. *Capsula* membranacea, obtuse trigona, trilocularis, apice loculicido-dehiscens. *Semina* in loculis pauca, subglobosa v. angulata, testa atra rugosa, hinc *rhaphe* percussa. *Embryo* axilis, dimidii albuminis longitudine, *extremitate radiculari* umbilicum attingente.—Herbæ *bulbosæ, in Europa imprimis Mediterranea et in Capite Bonæ Spei indigenæ;* racemo *corymboso,* scapo *terminante,* pedicellis bracteis *membranaceis suffultis,* floribus *albis. Endl.*

Ornithogalum *capitatum;* bulbo subgloboso, foliis lineari-loriformibus modice acuminatis carinatis demum elongatis planiusculis, scapis subspithamæis, corymbis multifloris umbellato-capitatis hemisphæricis, pedicellis brevibus, bracteis ovatis subtus medio gibbosis valde concavis, floribus parvis albis extus dorso purpureis, sepalis oblongis basi erectis demum patenti-reflexis, filamentis lato-subulatis erectis.

One of the many bulbous plants lately sent by Mr. Cooper from the interior of the Cape Colony, and which have been presented by W. Wilson Saunders, Esq., to the Royal Gardens of Kew, where it produced its dense capitate corymb, or umbel of small, but very pretty white and purple flowers, in a warm greenhouse in February, 1863. We have in vain searched for any described species corresponding with it.

Descr. *Bulb* tunicated, globose, about an inch and three-quarters in diameter. *Leaves,* at the time of the flowering of the plant, five to six inches long, erecto-patent, linear-oblong, moderately acuminated, carinate, at length much elongated and plane, a foot and more long, half an inch wide, linear-loriform. *Scape,* one or two from the same bulb, six to eight inches long, four lines wide, terete, green, narrower, and tinged with purple upwards. *Corymb* an inch and a half or rather more broad, convex, of numerous, small, subcapitate *flowers. Pedicels* short, bracteated at the base, the *bracteas* ovate, very convex, and even saccate near the middle. *Perianth* five lines broad ; *sepals* oblong, suberect at the base, thence patenti-reflexed, pure white within, but with a dark purple dorsal line, at length, in withering, wholly purple. *Stamens* broad-subulate, erect. *Anthers* didymous. *Ovary* ovate, obtuse, obscurely six-lobed. *Style* filiform. *Stigma*, three-lobed.

Fig. 1. A fully-grown leaf,—*natural size*. 2. Flower, pedicel and bractea. 3. Stamen. 4. Pistil. 5. Transverse section of ovary :—*more or less magnified.*

5389.

W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5389.

MEYENIA VOGELIANA.

Vogel's Meyenia.

Nat. Ord. ACANTHACEÆ.—DIDYNAMIA ANGIOSPERMIA.

Gen. Char. Calyx parvus, 5–12-lobus, *bracteolis* duabus magnis inclusis. *Corolla* infundibuliformis, *fauce* sensim ampliata, *tubo* brevissimo intus *annulo* piloso clauso, *limbo* æquali. *Stamina* 4, didynama; *antheræ* apice barbatæ, biloculares, superiorum loculis inæqualibus, altero magis supero divergente latere tomentoso, inferiorum parallelis subæqualibus, basi muticis. *Stigma* membranaceo-dilatatum, bilabiatum, *labiis* bilobis. *Capsula* e basi tumidula conico-attenuata, ad basin bilocularis, *tetrasperma, dissepimento* persistente, *valvis* adnato, ad axin lignoso, dissolubili. *Semina* (immatura) *strophiolo* cupuliformi solubili spongioso suffulta.—Plantæ *Indicæ vel Africæ occidentalis tropicæ.* Caulis *scandens vel erectus.* Folia *opposita, integerrima vel dentata.* Flores *axillares, pedunculati. Nees.*

MEYENIA *Vogeliana;* glabra, ramis erectis, foliis petiolatis oblongo-ovatis acuminatis serrato-dentatis, bracteis amplissimis ovatis carnosis corollæ tubo plusquam dimidio longioribus, calycis lobis filiformi-elongatis subduodecim.

THUNBERGIA Vogeliana. *Benth. in Hook. Fl. Nigrit. p.* 470. *Anders. Afr. Acanth. in Journ. of Proc. of Linn. Soc. v.* 7. *p.* 18.

A most lovely plant, native of Fernando Po; first detected by Dr. Vogel, after whom Mr. Bentham named the species, and since by our indefatigable collector Mr. Gustav Mann. In many respects it has considerable affinity with the *Meyenia erecta,* Benth., from Cape Coast, figured at our Tab. 5013; but this is much more beautiful, with much larger and serrated leaves, and larger flowers, with exceedingly large bracts, more than half the length of the tube of the corolla, and very thick and fleshy. The calyx, too, has much longer segments of the limb. It bears copious flowers in our stove in May.

Having adopted the genus *Meyenia* for the *M. erecta,* I have thought it better to refer this to the same genus, though Dr. Anderson, our best authority for Acanthaceous plants, considers it in no way distinct from *Thunbergia;* and, certainly, the original Indian species of *Meyenia, M. Hawtayniana* of Nees, has

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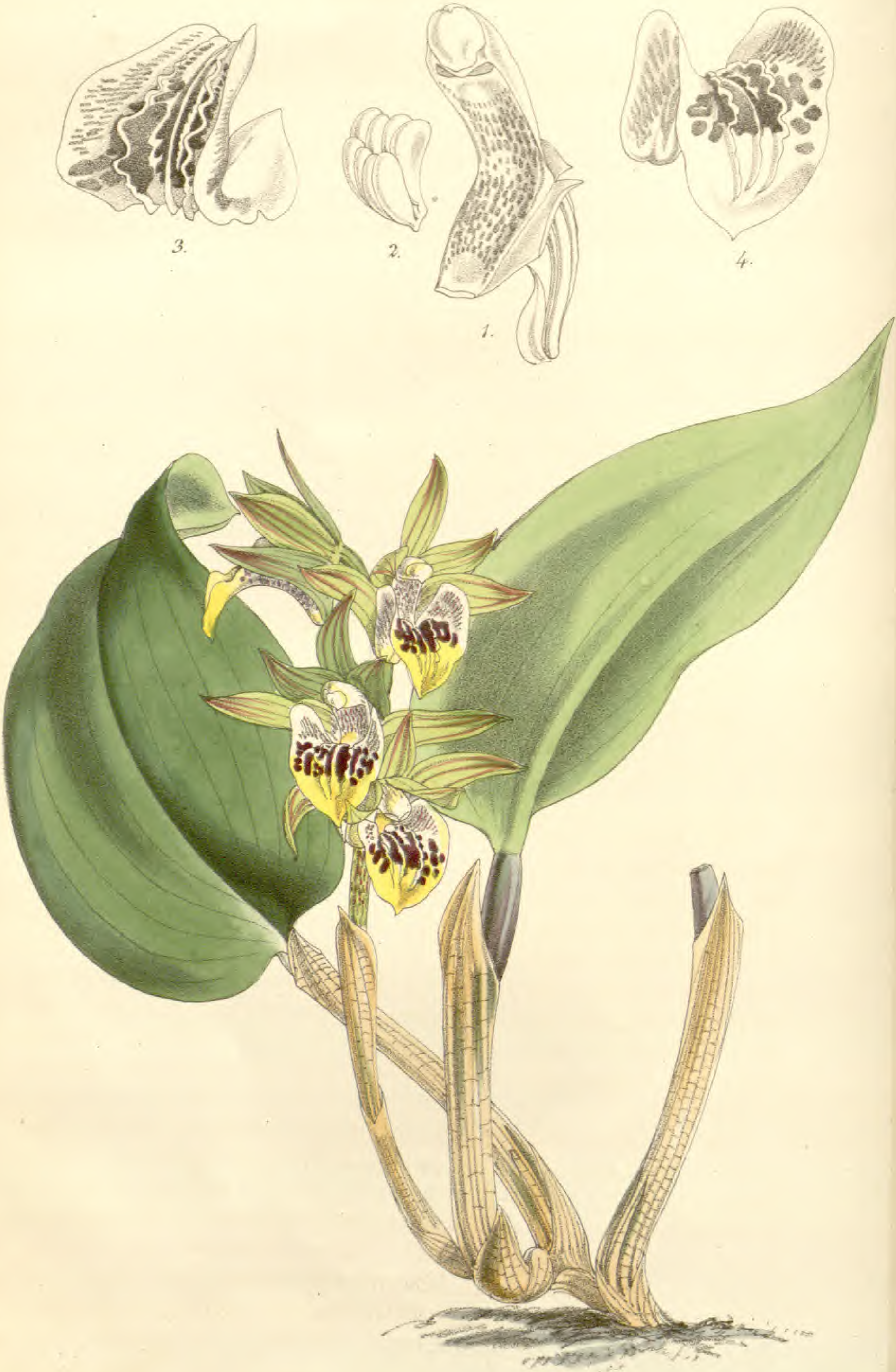
the flowers of our two *Meyeniæ*, but not the climbing habit of so many species of *Thunbergia*, in which genus Dr. Wallich and Mr. Thwaites place it.

Fig. 1. Base of the tube of the corolla, exhibiting the stamens. 2. A superior anther. 3. Calyx and pistil. 4. Ovary and hypogynous gland. 5. Transverse section of ovary:—*magnified.*

5390.



W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5390.

NEPHELAPHYLLUM SCAPIGERUM.

Scapigerous Nephelaphyllum.

Nat. Ord. ORCHIDEÆ.—GYNANDRIA MONANDRIA.

Gen. Char. Sepala et *petala* lateralia, lineari-oblonga v. lanceolata, patentia v. reflexa. *Labellum* liberum, anticum v. posticum, basi obtuse calcaratum, integrum v. lobatum, in axi cristatum v. appendiculatum. *Columna* semiteres. *Anthera* terminalis, 2–4-locularis. *Pollinia* 8, subquadrata, æqualia v. inæqualia, quaternatim connexa.—Herbæ *Indicæ, terrestres, glabræ, caulescentes v. scapigeræ*, caule *vaginato*. Folia *petiolata*, petiolo *medio articulato, ovata v. cordata.* Scapus *terminalis*, flores *laxe racemosi.*

NEPHELAPHYLLUM *scapigerum;* foliis ovato-cordatis acuminatis concoloribus, scapo aphyllo vaginato, floribus laxe racemosis, sepalis petalisque lateralibus lineari-oblongis viridibus purpureo-lineatis, labello antico conice calcarato obovato-oblongo acuto recurvo, medio 3-lamellato, flavo maculis purpureis disco albo basinque versus ornato, columna immarginata.

This singular and beautiful little Orchid differs much from its congeners in the anticous position of the labellum, the conical spur, and the bright colouring of the flower. It was imported from Borneo by Messrs. Low and Sons, of Clapton, to whom we are indebted for the specimen here figured. The specific name was derived from the fact of the flowering scape, where it emerged from the earth of the pot, being leafless and distant from the rest of the plant; there is, however, no real difference in mode of growth between this and the other species of the genus.

DESCR. *Stem* subterranean, creeping, covered, as are the *petioles* and *scapes*, with loose, membranous, elongate, reticulated *vaginæ*. *Leaf* 3–4 inches long, of a uniform green on both surfaces, rather paler below, nowhere clouded nor spotted, blade ovate-cordate, acuminate. *Scape* about as long as the leaves, about four-flowered. *Flowers* one inch across. *Sepals* and *petals* narrow, linear-oblong or lanceolate, oblong, acuminate, pale yellow-green, with three purple stripes. *Lip* anticous, ter-

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minating behind in a short conical spur, lamina broadly obovate-oblong, acute, recurved, with three longitudinal lamellæ, white towards the base, with purple spots and blotches, golden-yellow from the middle to the tip. *Column* rather short, without wings, spotted with purple in front.—*J. D. H.*

Fig. 1. Ovary and column. 2. Pollinia. 3 and 4. Lip:—*all magnified.*

5391.

W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5391.

ERIA OBESA.

Thick-stemmed Eria.

Nat. Ord. ORCHIDEÆ.—GYNANDRIA MONANDRIA.

Gen. Char. Sepala semipatentia v. clausa, inæqualia, extus lanata v. glabra, lateralibus basi valde obliquis, cum pede columnæ connatis calcar æmulantibus. *Petala* sepalo superiori æqualia v. minora. *Labellum* cum basi producta, columnæ articulatum, trilobum, raro subintegrum, cucullatum, disco calloso v. cristato. *Columna* basi longe producta. *Anthera* terminalis, bilocularis, *loculis* obsolete 4-locellatis. *Pollinia* 8, nunc omnino libero, nunc materie elastica glandulam mentiente cohærentia.—Herbæ *in arboribus crescentes; caulibus carnosis, vaginatis, cicatricibus foliorum notatis.* Folia *sæpius plicata.* Racemi *simplices, erecti,* bracteis *sæpius dilatatis.* Flores *nunc conspicui. Lindl.*

ERIA *obesa;* foliis (terminalibus binis lineari-lanceolatis acuminatis striatim venosis), caulibus crassis ovalibus, sepalis petalisque lanceolatis acutis subglabris, labelli trilobi ecallosi lobis lateralibus obsoletis rotundatis, intermedio ovali retuso, racemis paucifloris pubescentibus, bracteis ovato-lanceolatis pedicello capsularum longissimarum vix æqualibus. *Lindl.*

ERIA obesa. *Lindl. in Wall. Cat. n.* 1976. *Gen. et Sp. Orchid. p.* 68; *and in Bot. Reg.* 1844, *under t.* 29. *Reichenb. fil. in Walp. Annal. Bot. v.* 6. *p.* 277.

Of this now really extensive Indian genus fifty-two species are enumerated by Reichenbach, fil., in Walpers's 'Annales Botanices,' above quoted;—the present species among them, which, if not among the most showy of them, is a very neat and pretty one, and was discovered at Martaban by Dr. Wallich, afterwards at Moulmeine and Mergui by Griffith. Our specimens here figured were communicated by the Rev. C. S. P. Parish, Moulmeine, to the Royal Gardens in 1859, and they flowered in a warm stove there in February, 1863. Lindley's specific character well accords with our plant; but in a note he says the pseudobulbs are about twenty-seven inches long, much smaller than any of ours, but ours may in time become thus elongated.

DESCR. *Stems* or *pseudobulbs*, in our plant two to three inches long, and one inch broad in the thickest part, oblong oval, taper-

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ing at each end, marked with transverse rings or articulations, which have the remnants of membranaceous scales attached to them, and are striated longitudinally, sometimes reticulated. *Leaves* two, terminal. *Racemes* from the leafless pseudobulbs, three or four from each, arising from the apex or from the articulations, three to four inches long, copiously bracteated with oval, large, reflexed, purplish-green *bracts*. *Pedicels* elongated, slender, much longer than the bracts. *Flowers* white, scarcely tinged with pale-pink, very much resembling those of *Dendrobium*. *Labellum* oblong, obscurely three-lobed, lateral lobes subobsolete, the disk crested for nearly its whole length with three elevated lamellæ.

Fig. 1. Flower. 2. Column and lip. 3. Front view of the column, with its decurrent base. 4. Lip :—*magnified*.

W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5392.

CALCEOLARIA PUNCTATA.

Spotted Calceolaria.

Nat. Ord. SCROPHULARINEÆ.—DIANDRIA MONOGYNIA.

Gen. Char. *Calyx* basi ovario subadhærens, 4-partitus, laciniis valvatis. *Corollæ tubus* 0; limbus concavus, 2-lobus, lobis integris v. calciformibus, superiore sæpius minore inferiorem vulgo inflatum æstivatione vel margines angustissime obtegente. *Stamina* 2, lateralia, prope basin corollæ inserta; *antheræ* 2-loculares v. dimidiatæ. *Stylus* simplex, apice non incrassato. *Ovarium* disco tenui impositum. *Capsula* ovato-conica, septicide dehiscens, valvis 2-fidis, marginibus inflexis *columnam* placentiferam nudantibus. *Semina* perplurima.—Herbæ *v.* suffrutices. Folia *opposita* v. *verticillata, rarissime alterna.* Pedunculi *sepius cymoso-multiflori.* Corolla *alba, plana, v. purpurascens. Benth.*

CALCEOLARIA *punctata;* suffruticosa, erecta, ramulis tenuiter pubescentibus, foliis petiolatis ovatis profunde dupli-triplicato-dentatis basi in petiolum angustatis puberulis glabratisve subtus pallidis, panicula laxa floribunda, calycis laciniis ovatis acutis, corollæ labiis alte connatis subæqualibus, inferiore apice brevissime involuto.

CALCEOLARIA punctata. *Vahl, Enum. v.* 1. *p.* 177. *Benth. in DC. Prod. v.* 10. *p.* 206.

JOVELLANA punctata. *Ruiz and Pav. Fl. Per. v.* 1. *p.* 13. *t.* 18.

BÆA punctata. *Pers. Syn. v.* 1. *p.* 15.

This remarkable form of *Calceolaria* belongs to the small section including *C. violacea* (see Tab. nostr. 4929) called *Jovellana* by Ruiz and Pavon, in which the lips of the corolla are nearly equal, and neither of them saccate. It is a very ornamental species, a native of the southern provinces of Chili, and was introduced by Mr. Richard Pearce, the well-known and most successful collector for Messrs. Veitch and Co., of Exeter and King's Road, Chelsea.

DESCR. A tall, branched *herb*, shrubby at the base, everywhere minutely pubescent. *Leaves* opposite, petioled, ovate or oblong-acute, narrowed into the petiole at the base, deeply doubly and trebly toothed along the margin, rugose or wrinkled with impressed veins, two to three inches long. *Panicles* erect,

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spreading, very many flowered. *Calyx* lobes ovate, acute. *Corolla* broadly campanulate, two inches and a third long, with two short, spreading, rounded, nearly equal *lips*, the lower slightly involute at the margin, pale-lilac, spotted with purple at the base, the lower lip yellow on the disk. *Stamens* small, at the base of the tube.

Fig. 1. Portion of leaf. 2. Calyx and ovary. 3. Corolla laid open:—*all magnified.*

W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5393.

CRASSULA ROSULARIS.

Spreading-leaved Crassula.

Nat. Ord. CRASSULACEÆ.—PENTANDRIA PENTAGYNIA.

Gen. Char. Calyx profunde 5-fidus v. 5-partitus, rarius 6–9-partitus, laciniis erectis v. patentibus. *Petala* 5, rarius 6–9, libera v. basi connata, erecta, patentia v. recurva, apicibus glandulosis. *Stamina* 5, rarius 6–9, petalis breviora. *Squamæ* hypogynæ, variæ. *Ovaria* 5, rarius 6–9, in stylos breves attenuata, stigmatibus capitellatis. *Folliculi* 5, polyspermi.—Suffrutices fruticesve, *rarius* herbæ, *plus minus crassæ v. carnosæ.* Folia *opposita, connata v. dense rosulata, rarius petiolata, sæpius cartilagineo-serrulata.* Flores *sæpius parvi, albi flavi v. rubri, in cymas varie dispositi.*

CRASSULA *rosularis;* herbacea, estolonifera; foliis omnibus radicalibus dense rosulatis patentibus imbricatis oblongo-lanceolatis ligulatis v. spathulatis planis glabris cartilagineo-ciliatis, pedunculis scapiformibus erectis striatis, cymis oppositis multifloris subcapitatis, bracteis lineari-oblongis, floribus parvis albis, petalis patentibus acutis.

CRASSULA rosularis. *Harv. Rev. p.* 13. *Harv. and Sond. Fl. Cap. v.* 2. *p.* 350.

One of the many curious succulents once so generally cultivated in our greenhouses, but which have of late years either been banished from our houses or are confined to botanical establishments. Whether these will ever attain their former popularity is doubtful, though when we consider the remarkable forms they assume, and that their fine evergreen foliage is as ornamental in our houses in winter as in summer, we cannot doubt that they will again claim an honourable place in the conservatory. As it is, few places are more attractive to the winter visitors to the Royal Gardens than its richly-stored succulent-house. The present species is a native of South Africa, extending from Natal to Graham's Town, from whence the plants from which our figure was taken were sent by our valued friend Henry Hutton, Esq., of Graham's Town.

DESCR. A glabrous perennial, with creeping *rhizome* sending out no *stolons*. *Leaves* densely crowded into radical rosulate crowns, linear-spathulate, subacute, plane, thick and fleshy, with minute cartilaginous cilia at the edges. *Scapes* numerous, stout, erect, bearing numerous opposite, peduncled, subcapitate, very many flowered *cymes*. *Flowers* very small, white. *Petals* oblong, spreading.

Fig. 1. Margin of leaf. 2. Flower. 3. Ditto, calyx removed. 4. Ovary and squamulæ :—*all magnified.*

5394.

W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5394.

ANCHOMANES HOOKERI; var. *pallida.*

Hookerian Anchomanes; pale-flowered var.

Nat. Ord. AROIDEÆ.—MONŒCIA MONANDRIA.

Gen. Char. Spatha elongata, lineari-oblonga, modice cucullata, tota aperta, tubo vix ullo. *Spadix* spatha brevior, androgyna, floribus continuis. *Ovaria* subquadrata, in stylum crassum conico-elongatum decurvum asperum producta, *stigmate* sub-2-lobo 1-loculari. *Ovulum* basilare v. subbasilare, sessile, orthotropum? *Antheræ* late quadratæ, vertice planæ, depressæ, *loculis* 4 per paria oppos itis, sub vertice connectivi rimula dehiscentes.—Rhizoma *crassum, tuberosum, annulatum.* Folium *serotinum,* petiolo *elongato stricto tereti aculeato,* lamina *ternata, divisuris patentibus pinnatis,* pinnis 2–3-*jugis ovatis v. obovato-cuneatis acuminatis sepalibus membranaceis.* Pedunculus *aculeolatus.* Spatha *acuminata, pallide v. profunde luride purpurea.* Spadix *crassus, parte macula elongata alba, floribus fœmineis purpureis.*

ANCHOMANES *Hookeri. Schott, Prodr. Aroid. p.* 134.

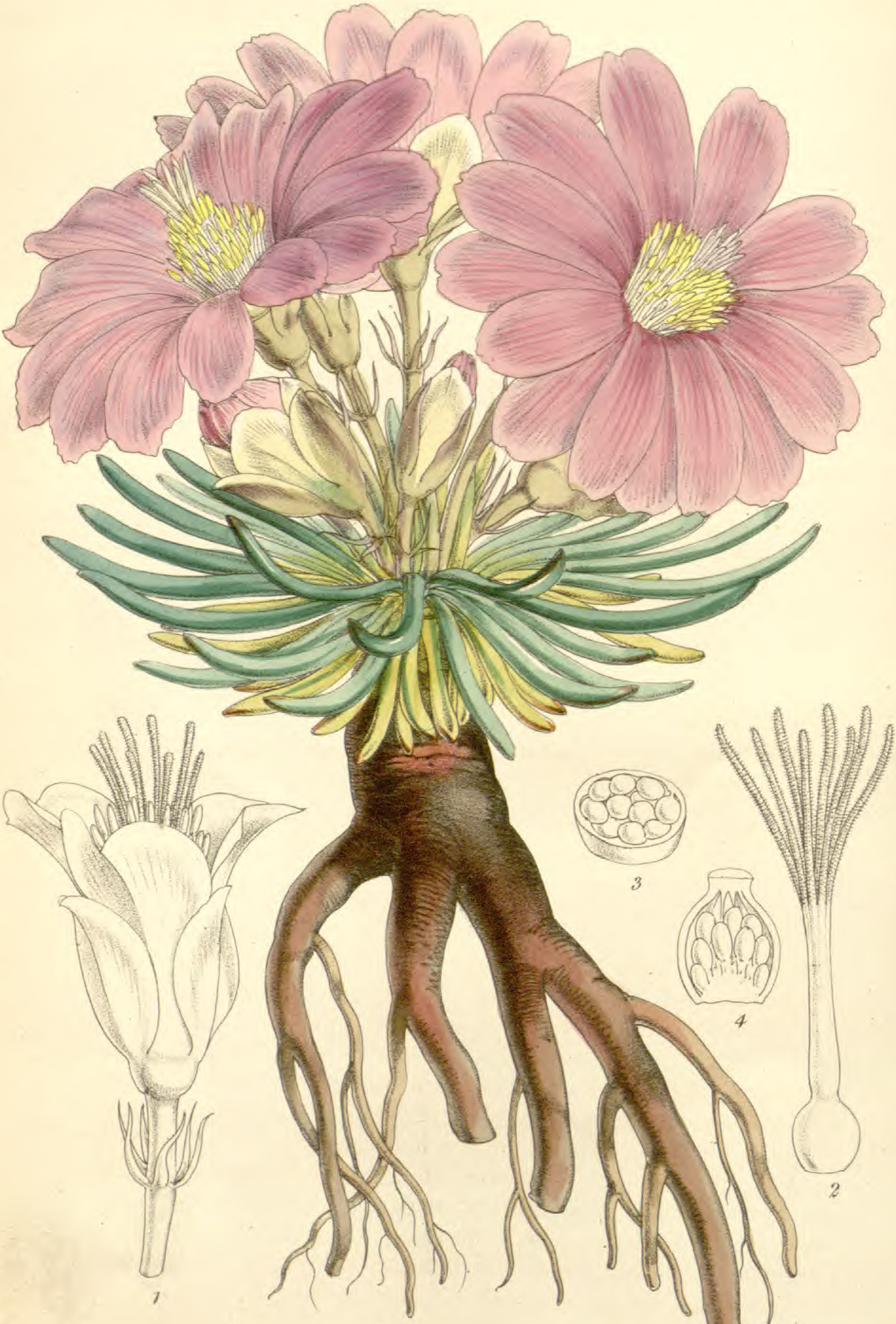
CALADIUM petiolatum. *Hook. Bot. Mag. t.* 3728.

Var. *pallida;* planta quam typica major, pedunculo petioloque magis aculeato, spatha spithamæa pallide purpurea, viridi suffusa.

Of this very remarkable Aroideous plant the tubers were sent from Fernando Po by the indefatigable Government Botanist and Collector for the Royal Garden, Mr. G. Mann. At first they were supposed to belong to an entirely new species, but a careful comparison with the *A. Hookeri,* figured at Tab. 3718 as *Caladium petiolatum,* also from Fernando Po, has induced us to consider it as a very large pale-flowered and more aculeate variety of that plant. Whether in flower or leaf, the plant is a most remarkable one: the spathes open in May, reared on the summit of a slender, prickly peduncle, two to three feet high, and blotched with purple and green. In the following July the single leaf appears, the petiole of which is longer, more prickly and slender than the peduncle, and bears horizontally on its summit the three-parted lamina, each of which is pinnated, and has two to three pairs of leaflets; each of the lateral leaflets gradually attains a size of six inches, and the terminal ones even a foot and a half, when the whole dies down to the ground, the tuber remaining dormant throughout the winter.

Fig. 1. Tuber and base of peduncle. 2. Spatha and spadix:—*both of nat. size.* 3 and 4. Ovaries. 5. Longitudiual section of ditto. 6. Stamen. 7. Transverse section of ditto:—*all magnified.* A reduced sketch of the leaf is seen on the right of the Plate.

5395.



W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5395.

LEWISIA REDIVIVA.

Spat'lum, or Reviving Lewisia.

Nat. Ord. PORTULACEÆ.—POLYANDRIA MONOGYNIA.

Gen. Char. Calyx amplus, subseptempartitus, segmentis interioribus late obovatis 2 exterioribus oppositis bracteiformibus omnibus herbaceo-membranaceis. *Petala* numerosa, ante anthesin contorta, subinæqualia, patentia. *Stamina* numerosa, hypogyna; *filamenta* gracilia; *antheris* extrorsis, erectis, linearibus. *Ovarium* subglobosum; *stylus* columnaris; *stigmata* 8, lineari-filiformia, pubescentia. *Capsula* globoso-membranacea, unilocularis, basin versus circumscissa. *Semina* numerosa, erecta, funiculata, *receptaculo* carnoso centrali inserta, albumine farinaceo; *embryo* horizontalis, curvatus, externus.—Herba *carnosa, boreali-occidentali-Americana.* Radix *fusiformis, lignosa, edulis;* foliis *radicalibus, carnosis, teretibus, glaucis, stellato-patentibus;* scapis *brevibus,* 1*–bifloris, bracteolis subulatis involucratis;* flore *maximo pulcherrime roseo.*

LEWISIA *rediviva.*

LEWISIA rediviva. *Ph. Fl. Am. v.* 2. *p.* 368. *Hook. Bot. Misc. p.* 344. *t.* 70, *and Hook and Arn. in Bot. Beech Voy. Suppl. p.* 334. *t.* 86. *Torr. and Gray, Fl. N. Am. v.* 2. *p.* 177.

Var. *flore albo.*

LEWISIA alba. *Kellog, in Proc. of Calif. Acad. of Nat. Sc.* 1861. *t.* 36.

We have at length the satisfaction of giving a figure, from a living plant, of *Lewisia rediviva,* or *Spat'lum* of the Indians of North-west America, of which hitherto little has been known, save what is derived from dried specimens: and in so succulent a plant the distinguishing characters are very apt to be fallacious. The specific name, "*rediviva*," is given by Pursh in consequence of the root, long preserved in the herbarium, and apparently dead, having been planted, revived in a garden in Philadelphia. We have ourselves had dried specimens, preserved two or more years in the herbarium, still sending up fresh crops of leaves. The specimen from which our figure was taken at Kew, is one of many which, when gathered with a view of being preserved for the herbarium, in British Columbia, by Dr. Lyall, R.N., of the Boundary Expedition, was immersed in boiling water on account of its well-known tenacity of life. More than a year and a half after, it notwithstanding showed symptoms of vitality, and produced its beautiful flowers in great perfection in May of the present year, in the Royal Gardens of Kew. It is now ascertained to be a native of California, probably far in the interior and on the high mountains ; but that is not stated by Dr. Kellog, who has given an excellent figure of a white-flowered variety in the Proceedings of the Californian Academy of Natural Sciences, above quoted.

DESCR. *Root* a thick woody (but internally subfarinaceous) *rootstock* or *rhizome*, much eaten by the natives of North-western America, and very generally kept dried in bags for the purpose: the summit scarcely rises above the surface of the ground, and is crowned with numerous terete, glabrous, and glaucous *leaves*, two inches long, subacute. *Scapes* from the centre of the leaves one to two inches long, single or two-flowered, jointed below the calyx, and there bearing a circle of six to seven small, subulate *bracts*. *Calyx* of six to seven imbricated unequal *segments*, of which the two outer and smallest are opposite and bracteiform. *Corolla* two and a half to three inches across, bright rose-colour, of many spreading *petals*. *Stamens*, *pistil*, and *capsules* as described in the generic character.

Fig. 1. Peduncle, calyx, and pistil. 2. Pistil. 3. Transverse, and 4, vertical section of the ovary, showing the receptacle of the seeds, ovules, and podosperms :—*magnified*.

W. Fitch, del et lith.

Vincent Brooks, Imp.

TAB. 5396.

SENECIO PYRAMIDATUS.

Pyramidal Groundsel.

Nat. Ord. COMPOSITÆ.—SYNGENESIA SUPERFLUA.

Gen. Char. Capitulum homogamum discoideum aut heterogamum, *fl. radii* ligulatis fœmineis. *Invol.* 1-serialis nunc nudi nunc squamellis accessoriis calyculati squamæ sæpius apice sphacelatæ, margine subscariosæ, dorso frequenter binervatæ. *Recept.* epaleaceum nudum alveolatumve. *Styli fl. hermaphr. rami* truncati, apiceque solo penicellati! *Achænium* erostre exalatum teretiusculum aut sulcato-angulatum. *Pappus* pilosus, pluriserialis, caducus, setis rectis subæqualibus tenuissimis vix scabris.—Herbæ *aut* frutices *innumeri, polymorphi.* Species *per totum orbem terrarum divulgatæ, sed eædem in pluribus regionibus vix occurrentes.* Folia *alterna, in* 2 (*dubiis*) *opposita.* Capitula *solitaria corymbosa vel paniculata.* Cor. disci *fere semper luteæ, rarissime purpureæ, nunquam nisi cultæ albæ!* Ligulæ *etiam flavæ, rarius purpurascentes aut albæ. De Cand.*

SENECIO *pyramidatus;* caule basi suffruticoso-carnoso superne elongato aphyllo tomentoso, foliis ad basin confertis sessilibus teretiusculis carnosis cum caule glabris araneosisve, racemo thyrsoideo elongato, pedicellis bracteolatis, capitulis radiatis circiter 60-floris, involucro sublanato pauce calyculato ligulis 10–12, achæniis glabris. *De Cand.*

SENECIO pyramidatus. *De Cand. Prodr. v.* 6. *p.* 402.

Professor De Candolle, so long ago as 1837, enumerated no less than a hundred and seventy-eight species of the genus *Senecio,* natives of extratropical South Africa, out of the five hundred and ninety-six he has described; and, no doubt, Drs. Harvey and Sonder will be able considerably to increase the number in the forthcoming volume of their 'Flora Capensis.' Many of them, as is the case in the present instance, are remarkable for the number and size of the flowers, and not a few for their glaucous, entire, fleshy, and cylindrical leaves (*Kleinoidei,* DC.). *S. pyramidatus* is perhaps among the most ornamental of the genus, and appears to have been first detected by Ecklon and Zeyher at Uitenhage, and since found by Henry Hutton, Esq., to whom we are indebted for our living plant. Its flowers are produced in June.

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Descr. Whole *plant* very glaucous and more or less cobwebby. *Stem,* in our plant, rather short, succulent, suffruticose, copiously leafy below, very sparsely so above. *Leaves* three to four to five inches long, terete, thicker than a writing-pen, straight or slightly curved, acute at the apex, scarcely attenuated at the base. *Flowers* large, full yellow, two inches in diameter, numerous, forming an elongated, compound, thyrsoid *raceme* or *panicle*. *Pedicels* bracteated, with small woolly scales. *Florets* of the disk and the ray as is common to the genus. *Achænia* glabrous.

Fig. 1. Floret of the ray. 2. Floret of the disk:—*magnified.*

W Fitch, del et lith.

Vincent Brooks, Imp.

TAB. 5397.

OPHELIA UMBELLATA.

Umbellate Ophelia.

Nat. Ord. GENTIANEÆ.—PENTANDRIA MONOGYNIA.

Gen. Char. Calyx 5–4-partitus, segmentis ima basi connexis valvaribus. *Corolla* marcescens, rotata, 5–4-partita, plicis coronaque continua destituta, supra basim *foveis* glanduliferis nunc nudis nunc squamula sæpius fimbriata tectis, et margine hinc fimbriatis instructa. *Stamina* 5, 4 corollæ fauci inserta, *filamentis* nunc basi dilatatis monadelphis nunc basi æqualibus liberis. *Antheræ* incumbentes, nutantes, sæpius virescentes. *Ovarium* uniloculare, *ovulis* suturæ insertis plurimis. *Stigmata* bina, terminalia, brevia, sæpius revoluta, *stylo* nullo vel brevi. *Capsula* bivalvis, septicida, unilocularis, *placentis* nunc spongiosis suturalibus nunc juxta suturas expansis. *Semina* placentis immersa, numerosissima, minima, plerumque exalata.—Herbæ *fere omnes Imaicolæ, annuæ v. rarius perennes, strictæ, ramosæ, paniculatæ*, internodiis *subæqualibus* foliis *oppositis*, cymis *extremis umbelliformibus, hinc contractis. Griseb.*

OPHELIA *umbellata;* annua erecta subpedalis glabra, superne paniculato-ramosa, foliis subsessilibus inferioribus obovato-spathulatis, intermediis ovatis acutis supremis minoribus lanceolato-acuminatis omnibus 3-subquinquenerviis, paniculæ ramis ultimis umbellatis, floribus tetrameris albis cæruleo tinctis, calycibus lato-subulatis, corollæ segmentis lato-lanceolatis acutissimis 3–5-nerviis basi poro orbiculari margine elevato ciliato.

OPHELIA umbellata. *Wight, Ill. of Ind. Bot. v.* 2. *p.* 175 (*name only, no description*), *t.* 175. *b. III. A.* (*ultimate umbel and analysis only*).

Ophelia is a very pretty genus of the Natural Order *Gentianeæ,* and nearly allied to *Swertia,* established by Don, and now including many species, all natives of the Old World, chiefly in Himalaya and hilly regions of other parts of India. The species are difficult of discrimination; and Dr. Wight assures us that the form and structure of the pore at the base of the corolline segment, together with its appendages, afford some of the best distinguishing characters. A nearly allied species to this is figured at Tab. 4489 of this work, where it will be seen that the pore is of a very different structure from that which is here

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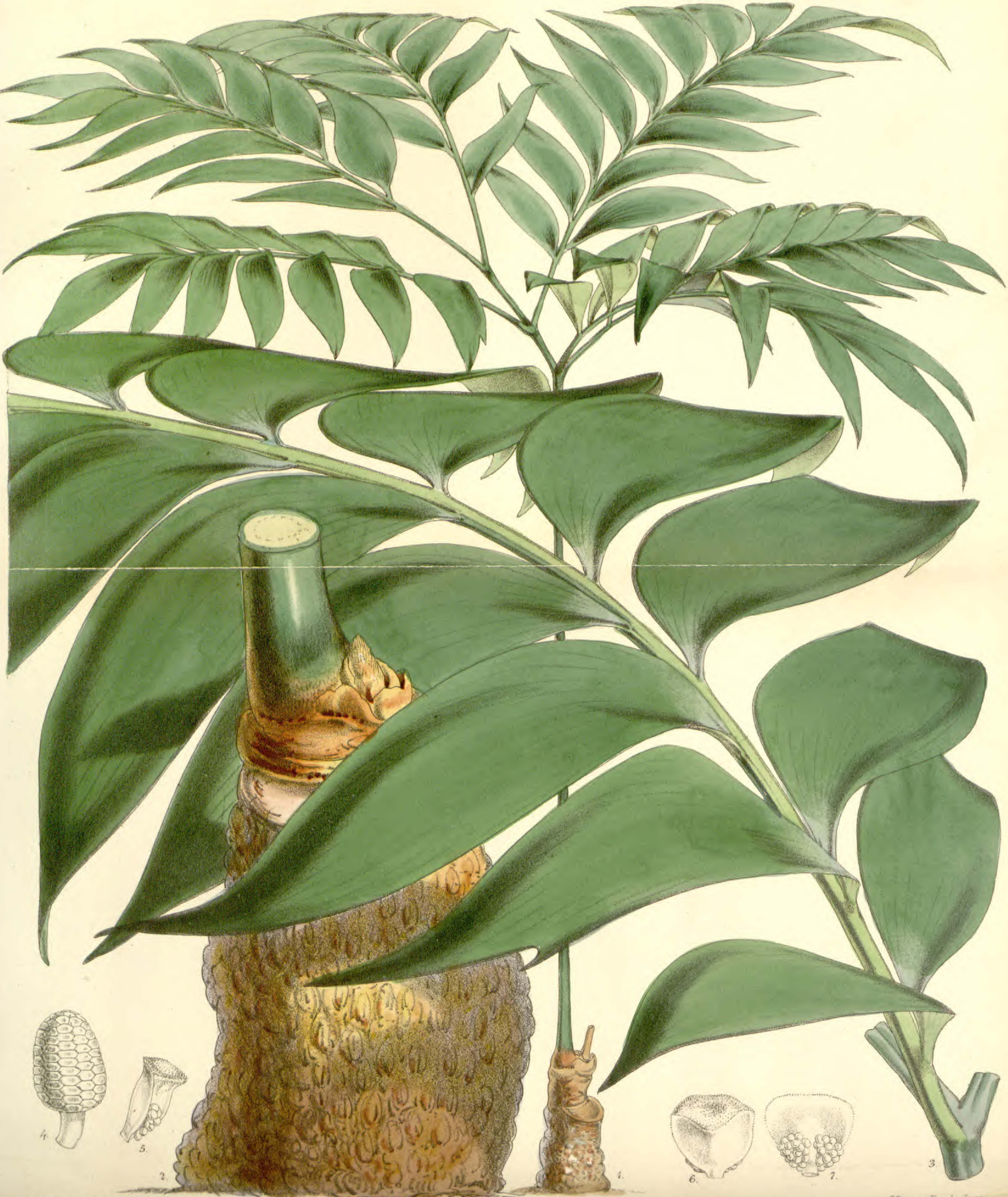
represented, and the colour of the flowers is very different too. *Ophelia umbellata* is nowhere described that I am aware of; but our plant exactly corresponds with original specimens we possess from Dr. Wight, gathered in the Nilgherries, whence also we derived our plant now cultivated at Kew. It flowers in June.

Fig. 1. Segment of the corolla, showing the pore at its base, and one stamen. 2. Ovary:—*magnified.*

5398.



W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5398.

BOWENIA SPECTABILIS.

Australian Bowenia.

Nat. Ord. CYCADEÆ.—DIŒCIA POLYANDRIA.

Gen. Char. Flores amentacei. AMENT. MASC.: parva, ovoidea, obtusa. *Squamæ* late obovato-cuneatæ, vix stipitatæ, crassiusculæ, apice dilatatæ truncatæ et tomentosæ. *Antheræ* basin versus squamæ utrinque aggregatæ, confertæ, subnumerosæ, minutæ, 1-loculares, rima longitudinali dehiscentes. AMENT. FŒM. ignota.—Planta *elata;* caudice *brevi, crasso, subcylindraceo, pro maxima parte terra abscondito, lenticellis magnis notato, folia* 1–2 *ampla apice emittente.* Folia *longe et gracile petiolata;* petiolo *teretiusculo, ima basi tantum lanuginoso;* lamina *bipinnatisecta, circumscriptione suborbiculari, ampla;* rachi *ramisque gracilibus, patentibus;* pinnulis *oblique falcato-lanceolatis, breviter petiolatis petiolulis decurrentibus cum rachi non articulatis, longe caudato-acuminatis, integerrimis v. unidentatis, flaccidis, utrinque late viridibus, venis parallelis parce anastomosantibus.* AMENT. MASC.: *solitaria, breviter stipitata,* $\frac{1}{2}$–$\frac{3}{4}$ *unc. longa. Hook. fil.*

BOWENIA *spectabilis. Hook. ms.*

With the exception of *Stangeria paradoxa* (Tab. nostr. 5121), no more remarkable Cycadeous plant has been discovered than the subject of our present Plate, and like that plant it differs from every member of its Order in the nature of its leaves, which present remarkable analogies with those of the Ferns; whereas, however, the anomalous character of *Stangeria* is afforded by the venation of the pinnules, which so exactly simulated those of a *Lomaria*, that two authors had (unknown to one another) referred it to that genus. The resemblance in the case of *Bowenia* is in some respects carried further, inasmuch as the leaf is not simply pinnate, as in *Stangeria* and other *Cycadeæ*, but decompound, like a *Marattia*.

The discoverer of this singular plant was the late Allan Cunningham, from whom we received upwards of forty years ago a portion of a frond, collected at the Endeavour river (lat. 15° S.) in 1819, and referred by him provisionally to *Aroideæ* (*Dracontium polyphyllum*, ms.). Nothing, however, was known further of it till

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Mr. Walter Hill, the zealous and able head of the Brisbane Botanic Garden, rediscovered it in Rockingham Bay, and sent a young living plant, with full-grown dried leaves and a male cone, to the Royal Gardens, Kew, in 1863. From these materials the Plate and description have been made; and, in accordancc with Mr. Hill's desire as well as our own, we have have attached the name of the present enlightened Governor of Queensland (Sir George F. Bowen, G.C.M.G., Captain and Governor-in-Chief), to the genus, in recognition no less of that officer's position as Governor of the district of Australia, in which the plant was found, than of his liberal encouragement of botany, and of Mr. Hill's exertions in particular.

As a genus, the most prominent character of *Bowenia* is the compound leaf, its general characters (all but shape), texture, and venation; the leaflets do not differ from those of *Macrozamia*, and are so very similar to those of some West Indian *Zamias*, that it is difficult to distinguish them generically, except that in *Bowenia* the leaflet is decurrent by the petiole, and not articulate with the rachis. The habits of growth, caudex, etc., entirely accord with that of the South America *Zamias*, as does the male amentum; the female amentum and fruit are both at present unknown, but we trust ere long they will be detected and published. *Hook. fil.*

Fig. 1. Reduced figure of entire plant. 2. Caudex and base of petiole. 3. Portion of leaf. 4. Male cone:—*natural size.* 5, 6, and 7. Side, upper and under view of scale, with anthers:—*magnified.*

5399.

TAB. 5399.

CATASETUM CERNUUM.

Drooping Catasetum.

Nat. Ord. ORCHIDEÆ.—GYNANDRIA MONANDRIA.

Gen. Char. Perianthium sæpius globosum, nunc explanatum. *Labellum* carnosum, crassum, nudum ventricosum v. explanatum, sub apice saccatum, obsolete tridentatum v. trilobum. *Columna* erecta, aptera, libera, apice utrinque cirrhosa. *Anthera* subbilocularis, antice truncata. *Pollinia* 2, postice biloba vel sulcata; *caudicula* maxima, nuda, demum elastice contractili, glandula cartilaginea subquadrata.—Herbæ *terrestres v. epiphytæ; caulibus brevibus, fusiformibus, vestigiis foliorum vestitis.* Folia *basi vaginantia, plicata.* Scapi *radicales.* Flores *speciosi, racemosi, virides, nunc purpureo-maculati. Lindl.*

CATASETUM *cernuum;* racemis elongatis cernuis multifloris, petalis duobus cum sepalo supremo conniventibus, labello patentissimo plano trifido, segmentis lateralibus acuminatis, intermedio crasso obtuso breviore.

CATASETUM cernuum. *Reichenb. fil. in Walp. Annal. Bot. Syst. v.* 6. *p.* 570.

MYANTHUS cernuus. *Lindl. Gen. et Sp. Orchid. p.* 155; *Bot. Reg.* (1834), *t.* 1720.

Var. *β.* columna latiore, anthera acumine subulato breviore.

CATASETUM trifidum. *Hook. Bot. Mag.* (1833), *t.* 3262.

Our *Catasetum trifidum* and Dr. Lindley's *Myanthus cernuus* were published respectively in the Bot. Magazine and in the Gen. et Sp. Orchid. nearly at the same time, so that it is difficult to say which has the priority of name. It is, indeed, true that the two are identical as to species; and in the 'Botanical Register,' published in 1834, Dr. Lindley quotes our plant as a synonym to his *Myanthus.* There are some slight differences indeed noticed above, which may justify its being considered a variety; but as to the genus, Dr. Lindley himself, we believe, has abandoned *Myanthus* as untenable. It has all the essential characters of *Catasetum,* and now merges into that.

Our original plant, and the first introduced into Europe, was derived from Trinidad, and was sent by Mr. Lockhart; but we have since been informed that it was there received from Rio

Janeiro. It is probably a native of Brazil exclusively, as far as we yet know.

The plant from which our present figure is taken was sent to the Royal Gardens of Kew by Mr. Jackson, of the Kingston Nursery. It flowered in June, 1863.

Fig. 1. Column and lip. 2. Transverse section of ovary. 3. Pollen-masses: —*magnified.*

5400.

W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5400.

SILENE ELIZABETHÆ.

Elizabethan Catchfly.

Nat. Ord. CARYOPHYLLEÆ.—DECANDRIA TRIGYNIA.

Gen. Char. Calyx inflato-, ovoideo-, campanulato-, v. elongato-tubulosus, 5-dentatus v. quinquefidus, 10-nervius (nervis lateralibus sepalorum adjacentium coalitis), rarius æqualiter et parallele ∞-nervius. *Petala* 5, ungue angusto; *lamina* integra bifida v. rarius laciniata, basi sæpius bisquamata. *Stamina* 10. *Torus* in gynophorum stipitiforme plus minus elongatus, rarius abbreviatus. *Ovarium* 1-loculare v. ima basi ∞-ovulatum; *styli* vulgo tres. *Capsula* apice in dentes v. valvas breves 6 rarius 3 dehiscens. *Semina* umbilico marginali affixa; *embryo* periphericus.—Herbæ *annuæ v. perennes, erectæ, cæspitosæ, decumbentes v. diffuso-scandentes.* Flores *solitarii v. varie cymosi, sæpe spicas unilaterales* thyrsum paniculamve *terminalem formantes.* Semina *opaca, tuberculata v. echinata (rarissime lævia). Benth. et Hook.*

SILENE (Elisanthe) *Elizabethæ;* perennis pubescenti-viscosa ascendens 1–7-flora, foliis lanceolatis acutis, calyce tubuloso mox ventricoso, petalis flabellato-bilobis lacero-denticulatis calyce duplo-longioribus, unguis corona multiseta, capsula ovoidea multiloculari, thecaphoro brevissimo crasso. *Walp.*

SILENE Elizabethæ. "*Jan, Catal. ad ann.* 1832. *p.* 32. *adn. Comoll. Fl. Comens. v.* 3. *p.* 164." *Reichenb. Pl. Critic. v.* 10. i. *t.* 901. *f.* 1221. "*Cesati, Iconogr. Stirp. Ital. fasc.* 5. 17. *cum tabula*" *(on the authority of Walpers). Reichenb. Ic. Fl. Germ. et Helvet. v.* 6. *t.* 261. *n.* 5116 (*no descr.*). *Walp. Repert. Bot. Syst. v.* 5. *p.* 82.

For the possession of this very handsome and rare hardy perennial the Royal Gardens are indebted to Professor Reichenbach, fil., late of Leipzig, now, happily for the cause of science, Director of the Botanic Garden of Hamburg. It is a native of Italy, according to Walpers, "inter fissuras rupium montium Grigna a Campione, Camisola et in Barbisino, in valle Saxina ditionis Lariensis, necnon in valle Triumplina ditionis Brixiensis." I am unfortunate in possessing few of the works quoted above, and I rely for the majority of the authors upon Walpers' Repertorium, from which it appears to have been first noticed by Professor Jan, in 1832. Reichenbach's valuable works indeed

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are before me, but unfortunately the plate referred to in the 'Plantæ Criticæ' is wanting in my copy, and that in the Icones Fl. Germ. et Helvet. lacks description and remarks. With us it blossoms in the open border in July, and the tufted habit of the plant, with its numerous large flowers, have a charming effect. *Silene pumilio* is considered its affinity, but the two are very distinct.

DESCR. Perennial. *Stems* tufted, erect or ascending, viscidly pubescent, as well as the foliage, a span or more high. *Leaves* lanceolate, acute, spreading, lower ones two to three inches long, becoming gradually smaller upwards. *Panicle* terminal, dichotomous. *Calyx* scarcely an inch long, tubular, at first cylindrical, at length oval and bladdery, pale dull-green, prettily veined and margined with purple. *Flowers* an inch and a half in diameter; *petals* bright rose-colour; *claws* white below, crowned with three to four long setæ; *lamina* cuneato-flabellate, crenato-dentate at the margin, emarginate so as to be two-lobed; *stamens* shorter than the claws of the petals. *Gynophore* very short. *Styles* three.

Fig. 1. Petal and stamen. 2. Pistil:—*magnified.*

W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5401.

HOMOIANTHUS VISCOSUS.

Viscid Homoianthus.

Nat. Ord. COMPOSITÆ (NASSAUVIACEÆ).—SYNGENESIA ÆQUALIS.

Gen. Char. Capitulum multiflorum, homogamum. *Involucrum* 2–3-seriale, *squamis* ext. foliaceis subdentatis, int. subimbricatis integerrimis. *Receptaculum* piloso-fimbrilliferum. *Corollæ* labiatæ, *labio ext.* 3-dentato plus minus ligulæformi, *int.* bipartito lobis linearibus sæpe cirrhiformibus. *Antheræ* basi setosæ. *Styli* rami apice truncati, puberuli. *Achænia* villoso-sericea. *Pappi setæ* pluriseriales, scabræ.—Herbæ *ima basi sæpe suffruticulosæ.* Folia *alterna, inf. sæpe petiolata, glabra aut rigide scabra aut ciliata.* Capitula *terminalia.* Corollæ *sæpe cærulescentes. De Cand.*

HOMOIANTHUS (Homanthis) *viscidus;* glaber, caule erecto subnudo glanduloso, foliis radicalibus oblongo-cuneatis obtuse sinuatis acutis subglandulosis, caulinis sessilibus, involucri squamis biseriatis integerrimis subæqualibus mucronulatis, ovariis villosissimis. *De Cand.*

HOMOIANTHUS viscosus. *De Cand. Prodr. v.* 7. *p.* 64. *Gay, Fl. Chil. v.* 3. *p.* 417.

PERDICIUM viscosum. *Pœpp. Pl. Exsicc. n.* 772.

PEREZIA viscosa. *Less. Syn. p.* 408.

PEREZIA spathulata. *Hook. et Arn. in Comp. Bot. Mag. v.* 1. *p.* 33.

CLARIONEA spathulata. *Lag. in Don, Trans. Linn. Soc. v.* 16. *p.* 205.

A native of Chili, in the southern provinces, especially in Valdivia, whence it has lately been imported by Messrs. Veitch and Son, of the Exeter and Chelsea Nurseries, through their indefatigable collector Mr. Pearce, and from whom we have received the specimens from which our figure has been taken. That it will prove hardy from such a climate there can be no question, and from its size and habit (not much unlike that of our favourite species of *Tagetes*), and the colour of the flowers, it is quite likely to become a good bedding-out plant for summer flower-borders. In June the flowers begin to appear in perfection.

DESCR. *Root*, as far as we can at present judge, perennial. *Stem*, a foot or more high in our specimen, simple and leafy, and somewhat woody, pubescently viscid, corymbose above. *Radical leaves* 3–4 inches long, oblanceolate, moderately acute, crenato-dentate, tapering into a long but winged petiole; *superior ones* sessile and gradually passing, in the flower-branches, into alternate small foliaceous lanceolate *bracts*. *Capitula* large, 2 inches in diameter, bright blue. *Involucres* of many imbricated, linear, green, erect *scales*, the lower ones tinged with brown; the outermost short and subpatent. *Florets* all ligulate; *central* ones bilabiate, inner *lip* small, bipartite, the *segments* spirally twisted. *Anthers* exserted, deep purple; *branches* of the *style* linear, recurved, dilated at the apex, grooved above, the margin glandularly pubescent.

Fig. 1. Central floret. 2. Apex of style and its branches and stigmas:—*magnified.*

W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5402.

MUSA SAPIENTUM; var. *vittata.*

Common Plantain; striped-leaved var.

Nat. Ord. MUSACEÆ.—POLYGAMIA MONŒCIA.

Gen. Char. (*Vide supra*, TAB. 5223–4.)

MUSA *sapientum*, Linn.; excelsa, perennis, caule cylindrico basi stolonifero, foliis breviuscule petiolatis, petiolis longissime vaginantibus lineari-oblongis acutiusculis basi obtusis v. cordatis, costa valida viridi, spadice nutante bracteato, spathis densifloris ovato-cymbiformibus obtusis purpureis masculis deciduis, perigonio labio minore retuso longe mucronato, superiore lobis brevibus recurvis, fructu glaberrimo.

Var. *vittata;* foliis fructibusque albo-vittatis.

MUSA vittata. *W. Ackerman, ms. in Van Houtte, Flor. des Serres, t.* 1510–1513.

The remarkable variety of the common Banana here figured was discovered by the late W. Ackerman in the island of St. Thomas, in the Bight of Benin, and by him sent to his employer, M. Van Houtte, of Ghent. At about the same time, that island was visited by Mr. G. Mann, our own energetic collector, by whom fine young plants were sent to the Royal Gardens, where they flowered in June of the present year. Though similar in all essential characters to the common Banana, this forms, especially in its young state, a very striking feature amongst the dark-green foliage of a tropical house; but, as the plants come to maturity, the colours fade. The fruit in all our plants bears no seed, and there seems little doubt, both from this circumstance and from the information we have received from Mr. Mann, that the variety is a cultivated one, and that the *M. sapientum* is nowhere indigenous to Africa. It is indeed suggested by M. E. Rodigas, in the 'Flore des Serres,' that *M. vittata* is a variety of *M. Sinensis* (*M. Chinensis*, Sweet), which is the *M. Cavendishii*, Paxton, and differs chiefly in stature and habit from *M. sapientum.*

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The true limits of the different so-called *Musas, sapientum* and *paradisiaca,* Bananas and Plantains, are not known, and probably not attainable by direct observation ; and the names also are indifferently ascribed in different countries to the same or different varieties or species. As a general rule, the name Banana is given to the sweet edible fruits, and of Plantain to the inedible, or such as are edible only when cooked ; whilst of some, all the longer or larger-fruited sorts are Plantains, and the smaller or shorter-fruited, Bananas ; but in India, as a general rule, all the sweet edible ones are called Plantains, and the word Banana is little known. A vast number of varieties of both sorts have been cultivated in the great Palm House at Kew ; and we can confidently affirm, that in general though the shorter-fruited sorts are the best eating, many of the long-fruited are excellent, and have been sent to us from the West Indies on account of their acknowledged excellency. We do however recognize a prevalent difference of habit between what may be *M. paradisiaca,* which has longer leaves narrowed into the petiole, and *M. sapientum,* in which the leaves are more rounded or cordate at the base, though intermediate states occur ; the flowers afford no character. Roxburgh, who has paid particular attention to both the native and cultivated Bananas and Plantains of India, pronounces both to be varieties of one plant that is common in the hilly districts of East Bengal, and which he calls *M. sapientum.* Brown again (Congo, App. 471) regards all cultivated *Musas,* except *M. Ensete,* as varieties of *M. sapientum.* Loureiro (Fl. Coch. 792) says the same thing ; as does Desvaux (Journ. Bot. 1814, n. 1. f. 27), who enumerates twenty-one varieties of Bananas with large fruit (7–15 in. long), called Plantains by the British ; and twenty-three varieties of Fig-Bananas, with small fruit (1–6 in. long), called Bananas by the British. Rumphius however expressly states that the true Bananas are the long-fruited (12–13 in. long), and the smaller-fruited form are called " Bacovos." The local East and West India names are endless.

Fig. 1. Plant reduced. 2. Bract and hermaphrodite flowers. 3. Unripe fruit. 4. Transverse section of the same.

W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5403.

MICROSTYLIS DISCOLOR.

Purple crisp-leaved Microstylis.

Nat. Ord. ORCHIDEÆ.—GYNANDRIA MONANDRIA.

Gen. Char. Sepala patentia, libera; lateralia basi æqualia, sæpius breviora. *Petala* patentia, linearia v. filiformia. *Labellum* patentissimum, cum columna angulum rectum formans, basi excavatum, sagittatum v. auriculatum, integerrimum v. dentatum, tuberculis nullis. *Columna* minima, raro paululum elongata, apice dentibus s. auribus duabus instructa. *Anthera* bilocularis. *Pollinia* 4, collateralia.—Herbæ *terrestres v. epiphytæ habitu* Liparis; foliis *plicatis v. membranaceis basi raro incrassatis.* Flores *herbacei, nunc flavescentes v. discolores. Lindl.*

MICROSTYLIS *discolor;* caule folioso, foliis ovato-oblongis abrupte petiolatis undulatis plicatis, labello ovato integerrimo basi cucullato, columna apice bicorni, sepalis petalisque secundis. *Lindl.*

MICROSTYLIS discolor. *Lindl. Gen. et Sp. Orchid. p.* 20. *Wight, Ic. Plant. Ind. Or. t.* 1631. *Thwaites, En. Pl. Zeylan. p.* 297.

This may safely be reckoned among the most lovely of terrestrial Orchideous plants, and may well rank with the "Wana Rajah," or "King of the Woods" (*Anœctochilus setaceus*), inhabiting the same country (Ceylon). The foliage is a rich purple, sometimes with a green edge, plaited longitudinally and much crisped at the margin; nor are the flowers, though minute, wanting in singularity of structure, when seen under the microscope, and they have the property of changing colour, as may be seen by our figure; at first, in our living plant, they are uniformly yellow, in age deep orange; Dr. Lindley says of the flower, "in purpureo mutabilis." The term *discolor*, for the specific name of this plant, is used perhaps in another sense than that of the upper and under side of the leaves being different in colour. In our plants the two surfaces are alike in hue, nor are they otherwise described. It is true we find the purple leaves sometimes green at the margin, but this is not a permanent mark, nor noticed in print. The species seems exclusively an inhabitant of Ceylon. Our garden is indebted for this rarity to our liberal friend Mr. Thwaites, from whom it was received in 1862, and it flowered, in a warm stove, in July, 1863.

Descr. Terrestrial. Stems, somewhat clustered, a few inches high, sheathed with large, purplish, imbricated *scales*, leafy above. *Leaves* about four, suberecto-patent, three to four to five inches long, oblong-ovate or ovate, acuminate, deep rich purple, plaited and veined longitudinally, sometimes green at the elegantly-crisped margin, tapering below into a broad sheathing *petiole*. *Peduncle* terminal, bearing a long, slender spike of very small *flowers*, at first yellow, then deep orange. *Ovary* not twisted, so that the ovate, concave *lip* stands uppermost, and is very conspicuous, for the narrow and nearly uniform *sepals* and *petals* are secund, and point the opposite way. *Column* short, with two teeth projecting beyond the small anther-case.

Fig. 1. An advanced flower. 2. A younger flower. 3. Column and lip :—*magnified.*

5404.

W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5404.

SPHÆRALCEA ACERIFOLIA.

Maple-leaved Sphæralcea.

Nat. Ord. MALVACEÆ.—MONADELPHIA POLYANDRIA.

Gen. Char. Bracteolæ 3, liberæ v. basi coalitæ. *Calyx* 5-fidus. *Columna staminea* summo apice v. usque ad apicem in *filamenta* ∞ divisa. *Ovarii loculi* ∞, verticillati, 2–3-ovulati; *styli rami* totidem, filiformes v. clavati, apice stigmatosi. *Carpella* matura ab axi secedentia, apice rotundata v. truncata, mutica vel dorso angulata v. 2-aristata, 2-valvia. *Semina* reniformia.—Herbæ suffrutices *v.* frutices, *habitu* Malvis Malvastrisve *affines.* Folia *sæpe angulata v. lobata.* Flores *breviter pedicellati, solitarii v. fasciculati, axillares v. in* racemum *seu* spicam *terminalem dispositi, violacei v. carnei, rarius pedunculati v. rubri. Bentham et Hook.*

SPHÆRALCEA *acerifolia;* pubescenti-tomentosa, foliis cordatis 5- sub-7-lobato-palmatis, lobis latis acutis grosse subinæqualiter serratis, floribus copiosis in axillis foliorum superiorum glomeratis vel in apicibus ramorum spicato-glomeratis.

SPHÆRALCEA acerifolia. *Torrey and Gray, Fl. of N. Am. v.* 1. *p.* 228.

MALVA (Sphæroma) acerifolia. *Nutt. mss.*

This fine Malvaceous plant (and indeed nearly allied to true Mallows, and, like them, herbaceous) was discovered on the banks of rivulets east of the Wallawallah, North-West America, by Mr. Nuttall, and he referred it to the section *Sphæroma* of De Candolle in the genus *Malva,*[*] and gave it the appropriate specific name of *acerifolia.* It has since been found in British Columbia, by Dr. Lyall, of the late Surveying Expedition to determine the boundary-line between the British and North American possessions on the Pacific, when fine specimens and seeds were sent to Kew. Plants flowered in a greenhouse of the Royal Gardens in June, 1863; but there is good reason to believe it will prove hardy in the open borders.

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[*] It may not be irrelevant here to mention that *Malva angustifolia*, Cav. (Bot. Mag. t. 2839), *M. obtusiloba* (Bot. Mag. t. 2787), and *M. abutiloides*, L. (Bot. Mag. t. 2544), are now referred to *Sphæralcea.*

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DESCR. Our plants at present have only attained a height of one and a half to two feet, with an erect habit, moderately branched; the *branches*, *foliage*, *bracts*, and *calyx* clothed with short, soft, stellated down. *Leaves* three to four inches long, rather long-petioled, cordate, palmately five- or sub-seven-lobed, the lobes broad, acute, rather coarsely but unequally serrated, rather strongly nerved, smaller upwards. *Flowers* moderately large, copious, appearing in nearly sessile clusters in the axils, or, in the extremities of the branches, forming a rather long compound *spike*. *Calyx* subpatent, deeply cut into five, broad-ovate, subserrated, deep *lobes*, and subtended by three, small, subulate, free *bracteoles*. *Corolla* deepish rose-colour, afterwards paler, an inch and a half in diameter. *Petals* five, obcordate. *Stamens* very numerous. *Ovary* very villous. *Styles* also very numerous.

Fig. 1. Calyx, with bracteoles and pistil,—*magnified*.

W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5405.

ERANTHEMUM TUBERCULATUM.

Tuberculated Eranthemum.

Nat. Ord. ACANTHACEÆ.—DIANDRIA MONOGYNIA.

Gen. Char. Calyx quinquefidus, æqualis. *Corolla* hypocràterimorpha vel elongato-infundibuliformis, *tubo* longo gracili, *limbo* subæquali. *Stamina* duo fertilia circa os tubi adnata, longe decurrentia, duo sterilia brevissima, *filamentis* longiorum basi connexa, in speciebus nonnullis anomalis nullis observatis. *Antheræ* exsertæ (aut subinclusæ), biloculares, muticæ, *loculis* parallelis contiguis, texturæ densioris. *Capsula* inferne depressa, *valvulis* contiguis, asperma, superius bilocularis tetrasperma. *Dissepimentum* adnatum. *Semina* discoidea, *retinaculis* suffulta.—Frutices *vel* suffrutices, *Asiæ, Americæ, Africæ, et Novæ Hollandiæ calidioris et tropicæ, plerique monticoli,* speciosis floribus *insignes* Phlogi *similibus, cæruleis, roseis, albis varie pictis,* foliis *vel integerrimis vel serratis.* Flores *spicati;* bracteis *communibus majoribus vel minoribus,* bracteolis *omnium parvis oppositis. Dcne. in De Cand. Prodr.*

ERANTHEMUM *tuberculatum;* frutex ramosissima, glaberrima, ramis teretibus gracilibus tuberculato-asperis, foliis parvis oppositis copiosis lato-ellipticis obovatisve obtusis emarginatisve, petiolis brevissimis, floribus copiosissimis solitariis axillaribus fere sessilibus, calycis lobis lineari-subulatis erectis æqualibus, tubo subturbinato sparse villoso, corollæ albæ tubo longissimo rectiusculo gracili superne paululum ampliato, limbo obliquo obscure bilabiato, lobis ovatis subæqualibus patentissimis, antheris vix exsertis.

ERANTHEMUM tuberculatum. *Hook. fil. ms.*

Seeds of this very floribund plant were given to us and to Messrs. Veitch, of the Chelsea Nursery, by Sir Daniel Cooper, and flowering specimens raised from them at Chelsea, were communicated to us in June, 1863. We are ignorant of the country whence the seeds were derived, nor do we possess any specimens of an *Eranthemum* corresponding with it in our herbarium; but we have two nearly allied species from the South Sea Islands, one from the Loyalty Islands (*Sir George Grey*), the other from the Isle of Pines (*Milne*); the former species has subpaniculated flowers, the latter rather long peduncles, with one to two flowers, and both have leaves three to five times larger than those of the present plant, and somewhat hairy.

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DESCR. Apparently a small *shrub*, copiously branched, with opposite or subverticillate, slender, tuberculated branches. *Leaves* copious, half to three-quarters of an inch long, elliptical or subobovate, very shortly petiolate, entire, obtuse, or more generally emarginate at the apex. *Flowers* very numerous, pure white, almost concealing the foliage by their number, axillary, solitary, scarcely peduncled (almost sessile). *Calyx* small, sparsely piloso-hispid on the subturbinate tube; *limb* of five erect, linear-subulate *segments*. *Corolla* with a very long, narrow, slightly curved, almost filiform *tube*, slightly dilated upwards; *limb* an inch across, oblique, scarcely two-lipped, the five *segments* ovate, very patent. *Anthers* small, purple, scarcely exserted. *Stigma* biglobose.

Fig. 1. Calyx and pistil,—*magnified*. 2. Ovary,—*magnified*.

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W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5406.

HIBISCUS HUEGELII; var. *quinquevulnera.*

Baron Huegel's Hibiscus; quinquevulnerous var.

Nat. Ord. MALVACEÆ.—MONADELPHIA POLYANDRIA.

Gen. Char. Bracteolæ ∞, rarissime 3–5, sæpius angustæ, liberæ v. coalitæ. *Calyx* 5-fidus vel 5-dentatus. *Columna* staminea infra apicem truncatum vel 5-dentatum (rarius antheriferum), *filamenta* plurima exserens. *Ovarium* 5-loculare, *loculis* 3-∞-ovulatis (sepalis oppositis); *styli rami* 5, patentes vel rarius erecto-subconnati, superne sæpe incrassati, nunc brevissimi, apice in *stigmata* capitata v. spathulata dilatati. *Capsula* loculicide 5-valvis, *endocarpio* rarius membranaceo-solubili, v. in dissepimenta spuria per dehiscentiam fissa producto. *Semina* reniformia, subglobosa (v. rarius subovoidea?), glabra tomentosa vel lanata.—Herbæ frutices *vel* arbores, *nunc elatæ, hispidæ v. tomentosæ, nunc humiliores vel glabræ.* Folia *varia, sæpe partita.* Flores *colore vario, plerumque speciosi,* petalis *sæpe macula discolori notatis.* Bracteolæ *persistentes v. caducæ. Benth. et Hook.*

HIBISCUS *Huegelii;* fruticosus erectus pilis stellatis patentibus pubescens, foliis petiolatis cordatis 3–5-lobis, lobis obovatis obtusis profunde sinuato-lobulatis lobulis obtusis integris v. iterum lobulatis, pedunculis axillaribus solitariis unifloris, supra medium articulatis bracteatis, involucri monophylli 10–12-partiti laciniis lineari-subulatis, calycis laciniis 5 lanceolato-acuminatis, stylo exserto, stigmate 5-fido lobis erectis v. patentibus.

HIBISCUS Huegelii. *Endl. in Hueg. Enum. v.* 10. *Miq. in Plant. Preiss. v.* 1. *t.* 239. *Benth. Fl. Australas. v.* 1. *p.* 217.

HIBISCUS Wrayæ. *Lindl. Bot. Reg.* 1840. *t.* 69.

PARITIUM Wrayæ. *Walp. Rep. v.* 1. *p.* 311.

HIBISCUS grossulariæfolius. *Miq. in Plant. Preiss. v.* 1. *p.* 240. *Hook. Bot. Mag. t.* 4329.

HIBISCUS geraniifolius. *Turcz. in Bull. Mosc. v.* 1. *p.* 195.

HIBISCUS Meisneri. *Miq. l.c.*

HIBISCUS Pinonianus. *Miq. l.c.*

Var. *quinquevulnera;* floribus roseis basi maculis 5 atro-sanguineis (TAB. NOSTR. 5406).

It is impossible to compare this very handsome *Hibiscus* with our figure of *H. grossulariæfolius* (Bot. Mag. t. 4329) without considering it, save in the colour of the flowers, specifically the

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same, but varying in the colour of the flower. So again the *H. Wrayæ* of Dr. Lindley (Bot. Reg. 1840, t. 69) is quite identical, even in the colour of its flowers, with *H. grossulariæfolius*. Both these and several other supposed species, as may be seen by the above list of synonyms, Mr. Bentham has, I do not doubt correctly, referred to Endlicher's *H. Huegelii*. But among the five varieties he has enumerated the present does not seem to be included, perhaps because, depending on colour, the dried specimens do not exhibit the peculiar differences: in the figures above quoted the petals are of an almost uniform dull purplish-blue colour, here deep rose, paler below, and each petal with a black-blood-coloured spot on the claw. All the varieties inhabit the Swan River settlement and the south-west coast of Australia. We owe the possession of our plant (which flowered in August, 1853) to Mr. Thomson, of Ipswich.

Fig. 1. Section of the calyx, with stamens and pistils,—*magnified.*

5407.

W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5407.

CEROPEGIA BOWKERI.

Bowker's Ceropegia.

Nat. Ord. ASCLEPIADEÆ.—PENTANDRIA MONOGYNIA.

Gen. Char. (*Vide supra*, TAB. 5306.)

CEROPEGIA *Bowkeri;* erecta glabra, caule tenui ancipiti simplici, foliis anguste linearibus utrinque acutis internodio longioribus, pedunculis axillaribus unifloris vix uncialibus, sepalis anguste linearibus, corollæ tubo tenuiter striato urceolato inferne ventricoso, limbi laciniis tubum æquantibus liberis latolinearibus plumoso-ciliatis intus villosis (cito arcte reflexis) coronæ stamineæ lobis exterioribus anguste triangularibus margine villosis, interioribus ligulæformibus glabris duplo longioribus. *Harvey.*

CEROPEGIA Bowkeri. *Harvey, Thes. Capensis, v.* 1. *p.* 9. *t.* 14.

Remarkable as are the flowers of many species of the genus, this is certainly not one of the least peculiar in the structure of its flowers and the colour of its corolla. It is one of the many discoveries in South Africa (Kreili's country, Caffraria) made by Henry Bowker, Esq.; and dried specimens and living tubers were communicated to Dr. Harvey, who published a good figure in his valuable 'Thesaurus Capensis,' l.c. Mr. Bowker's specimens appear to have been preserved when the flowers were not fully developed, and with the segments of the corolla erect; whilst in our living plants the segments are remarkably reflected, so as almost to conceal the tubular portion of the flower. The species flowered, in our Succulent House, in 1863.

DESCR. *Root* a rather depresso-globose *tuber*, from the crown of which arises a very short *stem*, which soon (near the base) divides into a few erect, slender, simple, subcompressed *branches*, giving the appearance of undivided stems a span to a foot high. *Leaves* in rather distant opposite pairs, two to three inches long, one to two lines wide, linear-subacute, sessile, becoming smaller upwards. From the axils of the pairs of upper leaves, a short *peduncle*, less than an inch long, bears a single flower. *Calyx*

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of five, linear-subulate, pale-green *sepals,* spotted with brown. *Corolla* an inch and a half long (including the reflexed limb), pale yellowish-green. *Tube* cylindrical, dilated and globose at the base, and again at the summit, which is brown, and where five subglobose spurs are formed. *Segments* of the *corolla* as long as the tube, linear-oblong, puckered on the surface and hairy above, beautifully fringed at the margin, soon strongly reflected on the tube. *Outer lobes* of the *staminal crown* broad, subulate, villous at the margin, a little spreading; *inner* one of five, erect, narrow-linear, elongated lobes.

Fig. 1. Entire flower. 2. Calyx and staminal crown. 3. Pollen-masses:—*magnified.*

W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5408.

SARCOPODIUM PSITTACOGLOSSUM.

Parrot-tongued Sarcopodium.

Nat. Ord. ORCHIDEÆ.—GYNANDRIA MONOGYNIA.

Gen. Char. Sepala ringentia, coriacea v. carnosa, lateralibus basi productis columnæ pedi adnatis, dorsali æqualibus v. minoribus. *Petala* minora. *Labellum* nanum, cum basi producta columnæ articulatum, carnosum, mobile, canaliculatum, basi subcordatum, nunc lamellis 3 brevibus auctum, nunc inappendiculatum. *Columna* nana, semiteres, mutica, basi in pedem producta. *Stigma* fovea sub rostello excavata. *Pollinia* 4, collateralia, 00 00, subæqualia, cereacea, omnino libera. *Anthera* bilocularis.—Herbæ *epiphytæ, Asiæ tropicæ, pseudobulbosæ.* Folia *solitaria, coriacea.* Flores *solitarii v. pauci, conspicui,* pedunculis *radicalibus. Lindl.*

SARCOPODIUM *psittacoglossum;* repens, pseudobulbis oblongis vaginatis demum (folio delapso) ovatis obtusis, vagina pulcherrime reticulatim fibrosa, foliis solitariis terminalibus lato-ellipticis coriaceis obtusis longe lateque petiolatis, pedunculis radicalibus pseudobulbis brevioribus bifloris, sepalis petalisque subuniformibus patenti-subcampanulatis ovatis flavo-virescentibus rubro-striatis, columna bidentata, labello (dimidio superiore reflexo) ovato trilobo linea centrali elevato.

BOLBOPHYLLUM psittacoglossum. *Reich. fil. in litt.*

This we consider to belong to a genus lately established in Dr. Lindley's 'Folia Orchidacea,' under the name of *Sarcopodium,* "intermediate," the author says, "between *Dendrobium* and *Bolbophyllum,* having the large flowers of the former and the peculiar creeping habit of the latter. The species agree with *Dendrobium* in having four nearly equal pollen-masses and a hornless column; but they have coriaceous, not thin half-transparent flowers, and a tough leathery lip, enlarged, not contracted at the base. If they had a caudicle and gland to their pollen-masses, they would almost be Asiatic *Maxillarias.* The flowers form neither horn nor spur, but are simply inflated and expanded at the base of the sepals." The same able author enumerates sixteen species, most of those described having appeared as *Bolbophylla,* some as *Dendrobia.* Amongst them is *Bolbophyllum*

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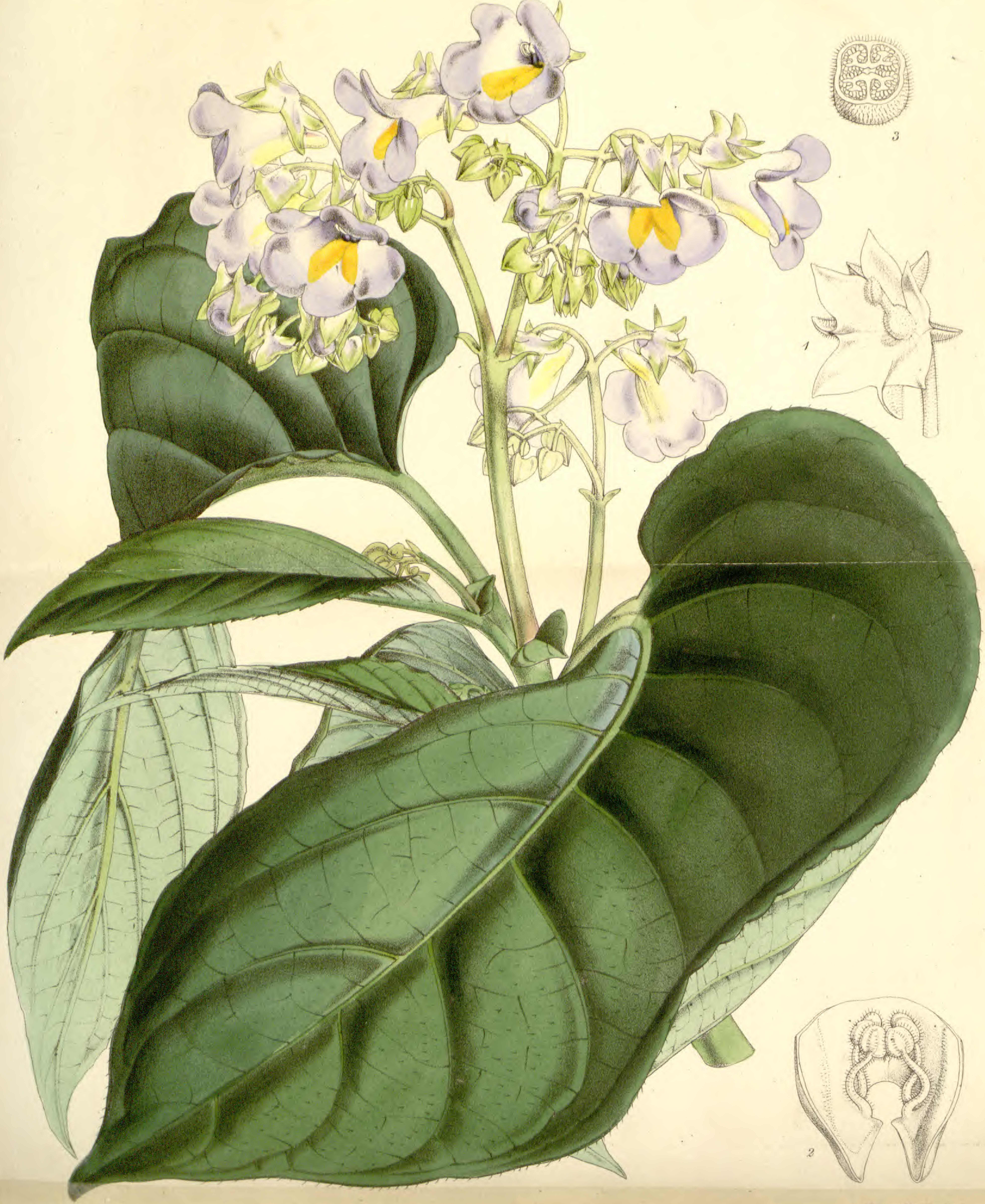
Lobbii, Lindl., in Bot. Reg. and in Bot. Mag. t. 4532, and *Bolbophyllum leopardinum*, Lindl., *Dendrobium*, Wall. Tent. Fl. Nep. v. 1. p. 39. t. 28, allied to our species. To the latter our plant seems most nearly allied, differing much in the shape of the leaves and the less globose unspotted flowers. The present species was sent by the Rev. C. S. P. Parish from Moulmein, to Mr. Low, of the Clapton Nursery, and also to Kew. The specific name we have adopted was communicated in a letter to Mr. Low, by Professor Reichenbach, fil.

Descr. A creeping *caudex* is clothed with numerous ovate *pseudobulbs*, which, while young, have a large and monophyllous submembranaceous but fibrous *sheath* investing them, and which in age becomes a beautiful network of fibre. *Leaves* three to four inches long, two to two and a half broad, elliptical, thick, coriaceous, long-petioled, solitary from the apex of the bulb. *Scapes* short, from the base of the bulb, bearing two pedicellate *flowers*, having two large ovate bracts at the base. *Flowers* yellow, tinged with green, beautifully streaked with lines of red. *Sepals* and *petals* subequal, ovate, moderately spreading, concave. *Lip* shorter than the sepals and petals, mottled and blotched with deep red, very concave at the base, articulate on the bidentate apex of the long decurrent column, subovate, three-lobed; side lobes short, middle lobe much recurved, channelled, having a dark elevated thickened ridge on the disk; *column* two-dentate at the summit. *Pollen-masses* four.

Fig. 1. Flower, with the sepals and petals removed. 2. The column, with its produced base. 3. Pollen-masses. 4. Front view of the lip. 5. Side view of the lip:—*all magnified.*



W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5409.

STAURANTHERA GRANDIFOLIA.

Large-leaved Stauranthera.

Nat. Ord. CYRTANDRACEÆ.—DIDYNAMIA ANGIOSPERMIA.

Gen. Char. Calyx subrotundo-campanulatus, 5-plicatus, latissime subdecemfidus, sinubus nempe in dentes productis. *Corolla* tubo brevissimo ampla, obliqua, basi calcarata, apice subquinquefida. *Stamina* fertilia 4, antheris cordiformibus cruciatim cohærentibus. *Capsula* circumscissa.—Herba *Indica, ramificatione* caulis *et* foliorum *obliquitate* Glossanthum *referens.* Racemi *bi-trichotome paniculati,* 8-20-*flori. Benth. in De Cand. Prodr. v.* 9. *p.* 278.

STAURANTHERA *grandifolia.*

STAURANTHERA grandifolia. *Benth. Scroph. Ind. p.* 57. *Br. in Horsf. Pl. Jav. p.* 121, *excl. secunda sp. De Cand. Prodr. v.* 9. *p.* 278.

GLOSSANTHUS (?) grandifolius. *Benth. in Wall. Cat. n.* 6395.

For the possession of this charming Cyrtandraceous plant the Royal Gardens are indebted to the Rev. C. S. P. Parish, who sent seeds of it in 1862, from plants detected by him on Zwakabin, Moulmein, a limestone rock of the country, at an altitude of two thousand feet above the sea-level, in August of that year. In August of 1863 our plants were in perfection both as to foliage and flowers. It proves identical with a plant gathered by Dr. Wallich in Penang, and preserved in Mr. Bentham's Herbarium, and first named by the latter gentleman *Glossanthus?,* afterwards *Stauranthera grandifolia.* Mr. Parish also forwarded accurate sketches of the flower. It promises to increase readily from cuttings; but at present our flowers have afforded no seeds.

DESCR. An herbaceous branching *plant,* everywhere nearly glabrous, having succulent green terete *stems* and *branches;* the whole about a foot in height. *Leaves* remarkably large in proportion to the size of the plant, often ten inches long, subsucculent, glabrous and subglossy above, paler beneath, four inches broad, oblong, singularly inequilateral, one side only at the base distended into a large rounded lobe or auricle, and there chiefly sinuato-lobate, the rest of the margin entire and subciliate, with rather distant hairs; the opposite half of the leaf is, near the base, cut off as it were obliquely. *Petioles* stout, two to four inches long. The *superior* leaves bear axillary *peduncles,* which terminate in many subdi- or -trichotomous *panicles.* *Flowers* an inch in length, and as much in diameter. *Calyx* pubescent, subrotate, of five, acute, deep *segments,* with the sinuses produced into a large spreading or subreflexed tooth. *Tube* of the *corolla* wide, rather short, white, tinged with purple and pale yellow; *limb* spreading, two-lipped, upper lip two- the lower three-lobed, pale-purple, the throat white, with a broad heart-shaped deep-yellow spot on the lower side. *Stamens* quite included. *Filaments* short, flexuose. *Anthers* connivent, cordate, hirsuto-glandulose. *Ovary* globose, glandular. *Style* scarcely longer than the ovary. *Stigma* oblique, two-lobed.

Fig. 1. Calyx and pistil. 2. Base of the corolla laid open, including the stamens. 3. Transverse section of the ovary:—*magnified.*

5410.

W. Fitch, del et lith.

Vincent Brooks, Imp.

TAB. 5410.

GARDENIA OCTOMERA.

Eight-parted Gardenia.

Nat. Ord. RUBIACEÆ.—PENTANDRIA MONOGYNIA.

Gen. Char. Calycis tubus ovatus, sæpe costatus, *limbus* tubulosus truncatus dentatus fissus partitusve. *Corolla* infundibuliformis aut hypocraterimorpha, *tubo* calyce multo longiore, *limbo* per æstivationem contorto patente 5-9-partito. *Antheræ* 5-9, lineares, ad faucem subsessiles. *Stigma* clavatum, bifidum aut bidentatum, lobis crassis erectis. *Ovarium* dissepimentis incompletis 2-5 semidivisum, 1-loculare. *Bacca* carnosa, calyce coronata, intus chartacea aut nucleata, incomplete 2-5-locularis. *Semina* placentis parietalibus carnosis immersa. *Embryo* albuminosus, vagus.—Arbores *aut* frutices, *inermes aut spinescentes.* Folia *opposita, raro verticillata, ovalia.* Flores *axillares aut terminales, plerumque solitarii, albi, demum sæpe florescentes,* sæpius odori. *De Cand.*

GARDENIA *octomera ;* fruticosa inermis mollissime pubescenti-villosa, foliis ternatim verticillatis ovato-oblongis brevi-acuminatis subsessilibus, floribus axillaribus solitariis sessilibus octomeris, calycis limbo profunde 8-partito, laciniis subulatis erectis unciam longis, tubo brevi lævi, corollæ tubo 6-unciali cylindraceo, limbi segmentis ovatis patentibus apice mucronatis, stigmate subclavato bipartito exserto.

De Candolle says of *Gardenia,* "Genus difficillimum, forte dividendum, ob fructus plurimos non satis notos speciebus forsan heterogeneis conflatum." Generically our present species would, I should think, rank with my *Randia Bowieana,* figured at Tab. 3409 of this work; but that plant Mr. Bentham, in the 'Niger Flora,' refers to *Rothmannia,* of which *Gardenia Rothmannia* (Bot. Mag. t. 690 ; Rothmannia Capensis, *Thunb.*) is the type, but which both De Candolle and Endlicher refer as a section to *Gardenia,* with the character, "Calycis tubus costatus, v. laciniis decurrentibus angulatus. Corollæ tubus fauce dilatata obconicus." Mr. Bentham, in the 'Niger Flora,' has proposed (p. 382) some distinctive characters for *Rothmannia* and *Randia,* but I do not find that our plant tallies well with any of his sections. It is a native of Fernando Po, where it

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was detected by Mr. Gustav Mann. The dried specimens were unfortunately lost, with many other of his collections, in the steamer 'Cleopatra.' It is the more fortunate therefore that we have succeeded in raising the plant from seeds sent by the same indefatigable collector. Of the size to which the plant attains we are at present ignorant. It flowers freely when only two to three feet high. Whatever differences of opinion there may be about the genus, there can be none about the species: the very soft pubescence of the terete leaves, the very long, deeply striated, villous, green tube of the corolla, equal in width throughout, and the octomerous flowers, are very characteristic.

Fig. 1. Calyx, ovary, and base of the style. 2. Pistil. 3. Vertical, and, 4. Transverse section of the ovary :—*magnified.*

W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5411.

MICONIA PULVERULENTA.

Floccose Miconia.

Nat. Ord. MELASTOMACEÆ.—DECANDRIA MONOGYNIA.

Gen. Char. Flores sæpissime 5-meri, raro 4–6–8-meri, amblypetali. *Calyces* longius breviusve campanulati, interdum subhemisphærici, *limbo* utplurimum brevi, nonnunquam dilatato, dentibus nunc obsoletis nunc productis rarissime acutis; denticulis externis sæpius nullis aut punctiformibus, in parvo specierum numero manifestis et acutis. *Petala* obovata, apice obtuso, integra aut retusa, sæpe inæquilatera, interdum suborbicularia, in floribus explicatis sæpissime reflexa. *Stamina* petalorum numero dupla (in paucissimis speciebus numerosiora, in unica, scilicet *M. tetrandra*, ad quatuor reducta), æqualia aut subæqualia; *antheris* diversiformibus, apice 1–2–4-porosis, rarius longitudinaliter 1–2-rimosis, *connectivo* sub loculis nullo aut breviter producto et varie appendiculato, interdum et adenophoro. *Ovarium* sæpissime partim adhærens, raro omnino liberum aut usque ad apicem cum calyce adnatum, ovoideum aut globosum, 2–3–4–5-loculare. *Stylus* modo gracilis exsertus, modo crassus et subinclusus, rarissime nullus aut subnullus; *stigmate* punctiformi, capitellato aut etiam peltato. *Fructus* globosus, baccatus (fortassis et siccus subcapsularis). *Semina* pyramidata aut irregulariter polyhedra.—Frutices *haud raro arborei, in utraque America inter tropicos copiosissime crescentes, micranthi aut submicranthi;* foliis *multiformibus, magnitudine diversissimis, oppositis aut rarius verticellatis, in eodem jugo nonnunquam subdisparibus, glabris, villosis, aut tomentosis;* inflorescentia *terminali, sæpius paniculata, interdum spiciformi;* floribus *sessilibus aut breviter pedicellatis;* petalis *albis, rarius roseis rubris aut luteolis. Naud.*

MICONIA *pulverulenta;* fruticosa polystemon, ramis supremis foliisque novellis pube tomentosa adpressa rufescentibus; foliis petiolatis ellipticis subacutis basi obtusis sinuato-denticulatis 3-nerviis, pagina superiore matura glabrata, inferiore tomentum retinente; paniculis thyrsoideis pyramidatisve confertifloris terminalibus aut alaribus; floribus ad apices ramorum ramulorumque congestis 5-meris, fortassis et 6–8-meris. *Naud.*

MICONIA pulverulenta. *Ruiz et Pav. Syst. Veg. Peruv. p.* 104. *De Cand. Prodr. v.* 3. *p.* 190. *Naudin, Melast. p.* 181–643.

Communicated by Messrs. Veitch and Son, from their nursery, King's Road, Chelsea, in July of the present year (1863), under the name we have here adopted, and stated to be derived from Peru. But that is all I have to offer in favour of its being

the little-known *Miconia pulverulenta* of Ruiz and Pavon, a species not found in our Herbarium, eminently rich in *Melastomaceæ.* Ruiz and Pavon's character is very brief and unsatisfactory, "Foliis ovatis 5-nervibus crenulis acumine obtuso." De Candolle's character is somewhat more in accordance with the plant, more so perhaps than Naudin's; yet they are derived from the same source, viz. the specimens gathered by Dombey. But, indeed, when it is known that Naudin enumerates 304 species of *Miconia* (including 103 dubious ones), it may well be supposed that the difficulty of clearly defining a species is very great, especially if unaccompanied by a figure. The beauty of the foliage alone of this plant recommends it to cultivation in our stoves. It forms a much-branched aud bushy shrub or tree (Ruiz and Pavon say "quadriorgyalis"). The leaves often attain a foot in length, are very velvety, and, as in so many of the genus, strongly reticulately wrinkled. The flowers are very insignificant, and enveloped in a dense floccose tomentum, of a pale ferruginous colour.

Fig. 1. Flower. 2. The same with the petals removed. 3. The same laid open, showing the pistil, the stamens being removed. 4. Transverse section of the ovary. 5. A petal. 6, 7. Stamens:—all more or less *magnified.*

5412.

W. Fitch del. et lith

Vincent Brooks, Imp

TAB. 5412.

WEBBIA PINIFOLIA.

Pine-leaved Webbia.

Nat. Ord. COMPOSITÆ (VERNONIACEÆ).—SYNGENESIA ÆQUALIS.

Gen. Char. Capitula pluriflora, discoidea, dioica! *Receptaculum* alveolatum, alveolorum marginibus subexsertis erosis. *Involucrum* imbricatum, 3–5-seriale, disco brevius. ♂ *Corollæ* tubulosæ, breviter 5-dentatæ. *Antheræ* inclusæ, lineares. *Stylus* indivisus aut apice subfissus. *Ovarium* extus villosum, abortivum. *Pappus* pauciserialis, setis vix dentatis. ♀ *Corollæ* tubulosæ, in lobos 5 elongatos angustos crassiusculos divisæ. *Antheræ* nullæ, aut effetæ. *Stylus* e tubo exsertus, lobis corollæ brevior, ramis 2 elongatis crassiusculis extus et *styli* parte indivisa suprema pilosiusculis. *Achænium* teres seu turbinatum, pluricostatum, erostre, costis villosissimis, sulcis glandulosis. *Pappus* pluriserialis, setis crassiusculis dense barbellatis, exterioribus brevioribus.—Herbæ *suffruticosæ* Africanæ, caule *erecto basi simplici apice corymboso.* Folia *sparsa, linearia, parce revoluta, supra glabriuscula, subtus cum* caule involucro*que canescentia.* Flores *purpurei, in capitulo* 8–10. Pollen *flavum.* Stigmata *purpurea. De Cand.*

WEBBIA *pinifolia;* caule herbaceo simplici striato subcanescente, foliis sessilibus confertis uninerviis linearibus margine revolutis supra glabris subtus sericeo-incanis, corymbo polycephalo fastigiato, involucri squamis oblongo-ovatis subcanescentibus, achænio sericeo-piloso, pappi serie externa dimidio inferiore breviore. *De Cand.*

WEBBIA pinifolia. *De Cand. Prodr. v.* 5. *p.* 72.

CONYZA canescens. *Thunb. Fl. Cap. p.* 665.

CONYZA pinifolia. *Lam. Dict. v.* 2. *p.* 86. *excl. Syn. Seb.*

ERIGERON Capense. *Houtt. Pfl. Syst. X. pl.* 609. *t.* 69. *f.* 2 (*ex. Herb. Deless.*).

VERNONIA pinifolia. *Less. in Linnæa,* 1829, *p.* 257, *and* 1831, *p.* 639.

Our herbarium contains copious specimens of this species of *Webbia,* collected from the close vicinity of Cape Town and all along eastward to Natal; but the rich colour of the numerous heads of corymbiferous flowers can only be seen in the living plant, and these quite compensate for the unattractive appearance of the foliage, which, however, is often quite satiny from the copious silky hairs which are close-pressed to the surface. Seeds were sent to us by Mr. Hutton, and our plants, which blossomed freely in August, 1863, were kept in a cool greenhouse. But in all probability the species will bear the open air in summer, and it might be planted in clumps or masses, or even used as bedding-out plants.

The ordinary height of the *plant* is twelve to fourteen inches; it is woody and branching at the base; the *root* subherbaceous. The *corymb* is copiously branched, and the branches are long, slender, repeatedly forked and fastigiate; this is terminated by an immense number of rich blood-purple level-topped *flowers*.

Fig. 1. Base of a plant,—*nat. size.* 2. Involucre. 3. Tubular floret from the centre of the capitulum. 4. Branches of the stigma. 5. Setæ from the pappus:—all more or less *magnified.*

5413.

W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5413.

FUGOSIA CUNEIFORMIS.

Cuneate-leaved Fugosia.

Nat. Ord. MALVACEÆ.—MONADELPHIA POLYANDRIA.

Gen. Char. Bracteolæ 3–∞, sæpius parvæ v. deciduæ, nunc dentiformes. *Calyx* 5-fidus. *Columna staminea*, sub apice truncato dentato v. rarius antherifero, *filamenta* ∞ exserens. *Ovarium* 3-4-loculare, *loculis* 3–∞-ovulatis; *stylus* apice clavatus, 3–4-sulcus v. in lobos 3–4 breves erectos clavato-stigmatosos subdivisus. *Capsula* loculicide 3–4-valvis. *Semina* obovoideo-globosa, sæpius pubescentia v. lanata; *albumen* membraniforme; *cotyledones* 2–3-plicatæ, auriculis baseos radiculam rarius partita rectam involventibus.—Suffrutices *fruticesve, habitu* Hibisci. Folia *integra vel lobata, rarius partita.* Flores *sæpius flavi.* Calycem *sæpe punctatum sed* cotyledones *semper impunctatas vidimus.* Seminum integumentum *internum ad chalazam incrassatum et nigrum fere calyptræforme vidimus in* F. phlomidifolia *et* australi. *Benth. et Hook. fil.*

FUGOSIA *cuneiformis;* fruticosa glabra, foliis cuneato-oblongis vel lato-linearibus obtusis 1–2 uncias longis integerrimis crassis subcarnosisque, pedunculis brevibus crassis, involucro parvo minuto 5–6-dentato paulo infra calycem sito, calyce ¾ ad unciam longo glabro v. minute tomentoso nunc glanduloso-punctato, profunde in lobos lanceolatos uninervios diviso, petalis 1½ unciam longis sparse tomentosis, capsula 5-loculari ovoideo-oblonga acuminata parce tomentosa, seminibus numerosis villoso-lanatis. *Benth.*

FUGOSIA cuneiformis. *Benth. Fl. Austral. v.* 1. *p.* 219.

HIBISCUS cuneiformis. *De Cand. Prodr. v.* 1. *p.* 454.

LAGUNARIA cuneiformis. *Don, Gen. Syst. Bot. v.* 1. *p.* 485.

HIBISCUS capriodorus. *A. Cunn. mss. in Herb. Hook.*

A rare and little-known West Australian species of *Fugosia*, a genus, as observed by Bentham and Hooker fil., very nearly allied on the one hand to *Hibiscus*, on the other to *Gossypium*; differing from the former chiefly in the style, from the latter in the bracteoles. The present species seems to have been discovered in Dirk Hartog's Island by Allan Cunningham, who gave it a manuscript name implying that it had a goat-like odour. Milne, during the voyage of Captain Denham in H.M.S. Herald, found it in the same island, and remarks that it is a seashore

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plant (as indeed might be expected from its very thick and fleshy leaves), and it is from seeds sent by him in 1856 that our present plants were raised, and which flowered in August of 1863. It is, however, not now for the first time cultivated at Kew, for we have had for very many years in our Herbarium a specimen derived from these Gardens; no doubt introduced by the indefatigable Allan Cunningham. Our Herbarium also contains a specimen from a small island in Sharks' Bay, West Australia, from G. Sandford, Esq.

DESCR. A much branching and very woody *shrub*, with copious oblanceolate or spathulate, rather than cuneiform *leaves*, thick and fleshy, readily breaking off in the dry state. *Flowers* large, axillary, solitary; the *peduncles* clavate; the *calyx* leafy, downy; the *petals* broadly obovate, pure white, with a deep blood-coloured spot at the base. *Anthers* also blood-coloured, beautifully arranged in whorls, as in the *Hibiscus Huegelii* (given in our last number, Tab. 5406); and the *style* and *stigmas*, erect and connivent, are the same as in *H. Huegelii*, from which this seems hardly generically distinct.

Fig. 1. Summit of the peduncle, with involucre, stamens, and style. 2. Pistil: —*magnified.*

5414.

W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5414.

DIPTERACANTHUS AFFINIS.

Splendid Dipteracanthus.

Nat. Ord. ACANTHACEÆ.—DIDYNAMIA ANGIOSPERMIA.

Gen. Char. Calyx æqualis, plus minus profunde quinquefidus. *Corolla* infundibuliformis; *limbo* subæquali quinquefido. *Stamina* didynama, inclusa, *filamentis* basi contiguis aut conjunctis: *antheræ* lineares, sagittatæ, *loculis* parallelis æqualibus muticis. *Stigma* bilamellatum, basi nodulosum. *Capsula* basi compressa, asperma, plerumque a medio, raro proprius a basi 2–8–12–16-sperma. *Dissepimentum* in medio membranaceum, denique maximam partem evanescens. *Retinacula* uncinata, præmorsa. *Semina* orbiculata, compressa, margine tumido discreto cincta.—Herbæ *Americanæ, Asiaticæ, paucæ Africanæ et Australasicæ, repentes vel erectæ, molliusculæ, rarius frutices.* Flores *aut omnes aut inferiores saltem axillares vel solitarii vel fasciculati, sessiles vel pedunculati, supremi subinde in racemum parvibracteatum collecti.* Bracteæ *duæ majores foliaceæ, sæpe petiolatæ, subjectæ calyci vel fasciculo; in racemosis minores et angustiores.* Bracteæ *vel nullæ vel exiguæ.* Formæ anomalæ: capsula *abortu tetra- vel disperma,* ovulis *tamen sterilibus adjectis semini. Nees.*

DIPTERACANTHUS *affinis;* glaber, caule fruticoso, ramis flexuosis dependentibus teretiusculis, foliis ovalibus, inferioribus obtusis cum mucronulo, superioribus acutis glabris basi acutiusculis petiolatis, floribus axillaribus solitariis subsessilibus calyce duplo brevioribus, corolla grandi-infundibuliformi, tubo in fauces transeunte et cum iisdem limbi laciniis ovatis duplo longiore. *Nees.*

DIPTERACANTHUS affinis. *Nees, in Endl. et Mart. Fl. Bras. fasc.* 7. *p.* 30; *et in De Cand. Prodr. v.* 11. *p.* 119.

NEOVEDIA affinis. *Schrad. in Goett. Gel. Anz.* 1821. *v.* 1. *p.* 706.

Certainly this may be reckoned among the most beautiful of Acanthaceous plants, and of the now extensive genus (counting 90 species) *Dipteracanthus,* vying with our *D. spectabilis,* figured at Tab. 4494 of this work, and exhibiting a remarkable contrast to that fine plant in the difference of colour in the two; *there* a rich deep purple-blue, *here* an equally rich scarlet. It is a native of various parts of Brazil, and has been imported by Messrs. Henderson, of Wellington Road, to whom we are indebted for a plant which flowered at Kew in July of the present year, 1863.

Fig. 1. Pistil,—*magnified.*

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W. Fitch, del. et lith.
Vincent Brooks, Imp.

TAB. 5415.

ERIA MYRISTICÆFORMIS.

Nutmeg Eria.

Nat. Ord. ORCHIDEÆ.—GYNANDRIA MONANDRIA.

Gen. Char. Sepala semipatentia v. clausa, inæqualia, extus lanata vel glabra, lateralibus basi valde obliquis cum pede columnæ connatis calcar æmulantibus. *Petala* sepalo superiori æqualia v. minora. *Labellum* cum basi producta columnæ articulatum, trilobum, raro subintegrum, cucullatum, disco calloso vel cristato. *Columna* basi longe producta. *Anthera* terminalis bilocularis, *loculis* obsolete 4-locellatis. *Pollinia* 8, nunc omnino libera, nunc materie elastica glandulam mentiente cohærentia.—Herbæ *in arboribus crescentes,* caulibus *carnosis, vaginatis, cicatricibus foliorum notatis.* Folia *sæpius plicata.* Racemi *simplices, erecti,* bracteis *sæpius dilatatis.* Flores *nunc conspicui. Lindl.*

ERIA *myristicæformis;* pseudobulbis aggregatis oblongis squamis amplis submembranaceis obsitis, demum oblongo-ovatis nudis fuscis lineis pallidis striatis, foliis duobus terminalibus subspithamæis erectis spathulato-lanceolatis acutis, scapo brevi, racemo erecto plurifloro glabro foliis breviore, sepalis petalisque oblongis obtusis subuniformibus albis, bracteis pedicello vix brevioribus reflexis albidis, labelli trilobi disco bicallosi lobis lateralibus ovatis, intermedio ovali reflexo cristato.

A very pretty and very fragrant species of *Eria,* which seems to us quite new, recently detected at Moulmeine, by the Rev. C. S. P. Parish, and communicated by him to Messrs. Low, of the Clapton Nursery, where it flowered in September, 1863. It may perhaps, in this now extensive genus, rank near the *E. obesa,* Lindl., figured at our Tab. 5391, but it differs in many essential particulars, especially in being everywhere glabrous, in the nature of the labellum, and in the pseudobulbs.

DESCR. *Pseudobulbs* aggregated, oblong-green, at first clothed with large sheathing scales, of which the uppermost one is sometimes leafy, at length often flowering: the old bulbs remain with very much of the shape and appearance of a cluster of nutmegs, or of large acorns. *Leaves* two, terminal on the young pseudobulb, nearly a span long, lanceolato-spathulate, acute. *Scape* scarcely longer than the bulb. *Raceme* erect, shorter than the leaves, of many moderately large pure white *flowers. Pedicels* bracteated at the base; *bract* about as long as the pedicel, oblong-acuminate, white, reflexed. *Sepals* and *petals* nearly uniform, oblong, obtuse, semipatent. *Labellum* forming a *spur* at its union with the produced base of the column, three-lobed; its disk bearing two elongated orange-coloured *glands,* side-lobes erect, ovate, acute, terminal lobe larger, oval, reflexed, bearing three elevated ridges near its base.

Fig. 1. Side view of a flower. 2. Ovary, column, and labellum. 3. Front view of the column. 4. Front view of the labellum, with its glands. 5. Pollen-masses:—*all more or less magnified.*

5416.

W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5416.

HELICONIA BREVISPATHA.

Short-spathed Heliconia.

Nat. Ord. MUSACEÆ.—PENTANDRIA MONOGYNIA.

Gen. Char. Perigonii epigyni *foliola* exteriora æqualia, basi inter se concrescentia, interiora lateralia subconformia, approximata, genitalia amplectentia, posticum nanum. *Stamina* 5, sexto postico abortiente, basi perigonii adnata. *Ovarium* inferum triloculare. *Ovula* in loculis solitaria, e basi axeos adscendentia, anatropa. *Stylus* filiformis; *stigma* depressiusculum, obsolete sex-lobum. *Capsula* subdrupacea, tricocca; *coccis* osseis, indehiscentibus. *Semina* in coccis solitaria, obovato-subglobosa, basifixa, *testa* ab endocarpio vix solubili. *Embryo* orthotropus, linearis, in axi albuminis farinaceo-carnosi, extremitate radiculari umbilicum attingente, infera.—Herbæ *Americanæ tropicæ,* foliis *longe petiolatis,* petiolis *basi vaginantibus, scapum radicalem sæpe velantibus,* spathis *pluribus distichis, in axilla floriferis. Endl.*

HELICONIA *brevispatha;* foliis oblongis brevipetiolatis glaberrimis, spathis paucis brevibus valde acuminatis coloratis, floribus albis spatha longioribus, sepalo nano ovato-acuminato.

HELICONIA aurantiaca. *Hort. Versch.*

The species of the genus *Heliconia* are more numerous than have been supposed, and do not seem to have attracted the attention of the horticulturist or the botanist so much as they deserve. The present species we cannot find anywhere described nor noticed, except that it has come to us in 1861 from M. Verschaffelt's garden establishment in Ghent, under the name of "*H. aurantiaca,*" an appellation scarcely suited to it. Its native country is probably South America. In a warm stove with us it produced readily its singular flowers, in the summer both of 1862 and 1863.

DESCR. This is a small species compared with several of the genus, scarcely exceeding three feet in height. *Leaves* little more than a span long, one and a half inch wide, oblong, rather obtuse at the base, much acuminated at the apex, quite glabrous. *Petioles* short, but their sheathing bases very much elongated, as is common to the genus, green on both sides, pinnatedly veined, *veins* faint. *Scape* chiefly included within the sheathing bases of the leaves, prolonged a few inches beyond the petiole of the uppermost leaf. *Spike* short, of not more than four or five orange-red *spathes*, of which the inferior one is flowerless, about four inches long, its upper half green; the rest are much smaller and gradually shorter upwards, each bearing two to three or four white *flowers* in the axil, and with whitish-green *ovaries*.

Fig. 1. Flower from which all the sepals but the dwarfed one have been removed,—*magnified.*

W. Fitch, del. et lith.
Vincent Brooks, Imp.

TAB. 5417.

LIGULARIA HODGSONI.

Mr. Hodgson's Ligularia.

Nat. Ord. COMPOSITÆ.—SYNGENESIA SUPERFLUA.

Gen. Char. Capitulum multiflorum, heterogamum, *floribus radii* uniseriatis, ligulatis v. bilabiatis, *staminibus* effœtis v. nullis fœmineis, *disci* tubulosis, hermaphroditis. *Involucrum* campanulatum, subuniseriale. *Receptaculum* planum, nudum. *Corollæ* radii ligulatæ v. bilabiatæ, *disci* tubulosæ quinquedentatæ. *Antheræ* ecaudatæ. *Stigmata* disci obtusa, pube longe descendente utrinque obsessa, cono brevissimo superata. *Achenia* erostria, sulcata, teretiuscula, exalata, haud ciliata. *Pappus* pluriserialis, pilosus, conformis.—Herbæ *perennes, in Asia media et India boreali copiose provenientes, in Europa orientali et media raræ;* foliis *alternis variis,* capitulis *amplis flavis, in* racemumve *dispositis aut solitariis, longe pedunculatis. Endl.*

LIGULARIA *Hodgsoni;* perennis elata succulenta, foliis radicalibus cordato-rotundatis repando-lobatis grosse acuteque dentato-serratis venosis, caulinis superioribus præcipue bracteisque cucullato-vaginatis, floribus magnis (2½ unc. latis) capitato-corymbosis, involucri foliolis uniserialibus basi bracteolatis.

A very distinct and perfectly new species of *Ligularia* from Yezo, the most northern island of Japan, and from near Hakodadi, detected there by our late Consul, C. P. Hodgson, Esq., after whom I name it. There is every reason to believe that it will bear the open air in this climate; but at present we have kept it in a cool frame, where it produced its large bright-yellow flowers in July.

DESCR. The *root* appears to be perennial. The *stem* is thick and succulent, leafy, three feet, and probably more, high under favourable circumstances, striated, purplish below, green and downy above. *Radical leaves* on very long petioles, large, cordate, or subrotund (occasionally approaching to reniform), more or less repandato-lobate, serrato-dentate with rather unequal but very sharp, coarse teeth. *Cauline leaves* gradually smaller upwards, at length becoming leafless or nearly leafless bracteas, which are cucullato-vaginate around the stem. *Flowers*

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very large, two and a half inches in diameter, capitato-corymbose, deep and bright yellow. *Involucre* turbinate, of several linear-lanceolate erect folioles in a single series, subtended by a few rather long, subulate *bracts,* forming a kind of involucel. *Ligulate florets* sixteen to twenty, large spreading, all female. *Disk* of numerous tubular florets, which are perfect. *Pappus* deep tawny when the fruit is approaching to ripeness.

Fig. 1. Ligulate floret. 2. Floret of the disk:—*magnified.*

5418.

W. Fitch del. et lith.

Vincent Brooks Imp.

TAB. 5418.

ADENIUM OBESUM.

Thick-stemmed Adenium.

Nat. Ord. APOCYNEÆ.—PENTANDRIA MONOGYNIA.

Gen. Char. Calyx 5-partitus, lobis lanceolatis glandulosis. *Corollæ tubus* inferne cylindricus, angustatus, dein ampliatus exappendiculatus, externe pubescens, parte ampliata inferiore longiore infundibuliformi-cylindracea, interne subpubescente; lobis æstivatione sinistrorsum convolutis, non replicatis, tubo brevioribus. *Filamenta* 5, brevissima, superne in tubi parte angustiore; *antheræ* lineari-sagittatæ, medio cum stigmate cohærentes, apice seta pilosa longitudine corollæ terminatæ. *Glandulæ* circa ovaria nullæ. *Ovaria* duo, globosa (ex *Vahl*), elliptica (ex *A. Honghel*) et glabra. *Stylus* 1. *Stigma* capitatum, apice bidentatum, "basi (ex *A. Honghel*) membrana reflexa cupuliformi cinctum." *Ovula* ∞, pendentia, imbricata. FOLLICULI.—*Semina* (ex *A. Honghel*) cylindraceo-prismatica, utrinque comosa, *coma* inferiore serius caduca. *Testa* striata, denticulis retrorsis (sub lente videndis) aspera. *Embryo* rectus; *radicula* supera ovoidea oblonga, apice conica; *cotyledonibus* radicula multo brevioribus, ovatis foliaceis, margine involutis?—Frutices *caudice carnoso, globoso,* ramis *carnosulis;* foliis *paucis in axillis setiferis, integris;* floribus *ad apicem ramorum approximatis, breviter pedicellatis purpureis.*—Genus habitu *Pachypodii*, sed seminibus bicomosis! *Alph. De Cand.*

ADENIUM *obesum;* foliis ad apicem ramorum approximatis oblongis subpetiolatis mucronatis eveniis subtus villoso-tomentosis, junioribus utrinque mollibus pedicellis villosis, calyce pubescente, lobis corollæ rotundatis. *A. De Cand.*

ADENIUM obesum. *Rœm. et Sch. Syst. Veget. v.* 4. *p.* 411. *De Cand. Prodr. v.* 5. *p.* 412.

NERIUM obesum. *Forsk. Fl. Æg. Arab. p.* 205. *Vahl, Symb. v.* 2. *p.* 45.

PACHYPODIUM obesum. *Don, Gen. Syst. Hort. and Bot. v.* 4. *p.* 80.

CAMERARIA obesa. *Spreng. Syst. Veget. v.* 1. *p.* 641.

ADENIUM Honghel. *Lindl. in Bot. Misc. v.* 32. *tab.* 54. (*vix De Cand.*)

A very remarkable-looking plant, native of the Arabian deserts, and first noticed by Forskahl, in his 'Flora Ægyptiaco-Arabica.' It was, prior to 1846, introduced, in a living state, to the Horticultural Society's Garden, through the medium of the Directors of the East India Company, from Aden. Several healthy plants were kindly sent to us also from Aden, by J.

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Olding, Esq., of the Peninsular and Oriental Company's Steamers, in 1862, and from the finest of these plants, nearly three feet high, our figure has been made, in August, 1863. One of our figures (4) represents an entire flowering-plant, greatly reduced, accompanied by a branch of the natural size. But judging by a photograph lately sent to us by the kindness of Captain Playfair (late Political Agent at Aden, and now Her Britannic Majesty's Consul at Zanzibar), the shrub attains a very large size, and exhibits a most curious aspect with its thick tortuous branches, and very gouty base of the trunk; the flowers however are handsome, and not much unlike those of the *Oleander*, to which family of plants this belongs. A second species (*A. Honghel*, De Cand.) is found on the Senegambia. Lindley speaks of this (or probably an allied species) as found at Delagoa Bay. It evidently affects a hot dry country.

Fig. 1. Tube of the corolla laid open, showing the stamens. 2. Single stamen. 3. Pistil:—*all magnified.* 4. Flowering plant, very much *reduced* from the natural size.

5419.

W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5419.

BURLINGTONIA DECORA; var. *picta*.

Neat Burlingtonia; painted var.

Nat. Ord. ORCHIDEÆ.—GYNANDRIA MONANDRIA.

Gen. Char. Perianthium membranaceum, convolutum, obliquum. *Sepala* unguiculata, labello breviora, basi a petalis distincta, lateralia basi concava, connata, labello subposita. *Petala* unguiculata, labello parallela, sepalis longitudine æqualia, sed latiora. *Labellum* unguiculatum, bilobum, basi cornutum, vel muticum, cum columna parallelum, apice dilatatum, ungue canaliculato, lamellato. *Columna* teres, longe clavata, nunc apice appendicibus duabus coloratis aucta; *clinandrio* dorsali, *stigmate* utrinque cornuto. *Antheræ* uniloculares. *Pollinia* 2, postice excavata, *caudiculæ* subalatæ elastice adnata.—Herbæ *epiphytæ*, pseudobulbis 1–2-*phyllis, basi foliatis. Lindl.*

BURLINGTONIA *decora;* caulibus elongatis hic inde proliferis, pseudobulbis ovatis compressis monophyllis, sepalis petalisque (albis roseo-maculatis) acutis, labelli ungue sepalis petalisque longiore, calcare integro, columna apice appendicibus 2 falcatis erectis pilosis aurita.

BURLINGTONIA decora. *Lemaire, and Hook. Bot. Mag. t.* 4834 (*which see for synonyms and description*).

Var. *picta;* pseudobulbis orbicularibus compressis, foliis brevioribus acutissimis, sepalis petalisque pulcherrime maculis purpureo-atrosanguineis pictis. (TAB. NOSTR. 5419.)

This most lovely state of *Burlingtonia decora,* as we believe it to be, was received from Brazil by Mr. Bateman, in whose Orchideous House it flowered in October of the present year, and was very attractive from its gracefulness, and the rich deep-purple mottling of the sepals and petals, on a pure white ground, so unlike the pale, dull, pinkish, uniform spotting of the *B. decora,* given at our Tab. 4834. Moreover, the foliage is considerably different from that of the latter plant, shorter, and more acute; exactly resembling that of *Burlingtonia rigida* of Lindley, in 'Sertum Orchidaceum,' f. 36; a species on which we have already offered some remarks under our Tab. 4834.*

Fig. 1. Side view of the column and lip and spur. 2. Front view of the column. 3. Pollen-masses:—*magnified.*

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* *Burlingtonia decora* has been given in the 'Flore des Serres,' vol. vii. t. 716. That has the elongated pseudobulbs and elongated leaves of our first figure; but the sepals and petals are all over purple, with deeper, small, and nearly uniform spots of the same colour. I fear the species is exceedingly variable.

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